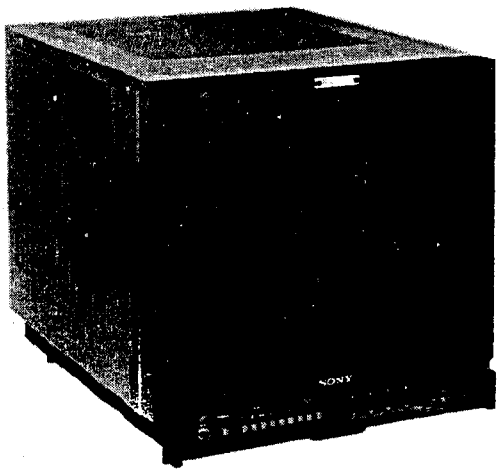
SONY-SP00660

SONY

TRINITRON® COLOR VIDEO MONITOR

# BVM-2010P
# BVM-2010PD
# BVM-2010PM
# BVM-2010PMD



TRINITRON

## OPERATION AND MAINTENANCE MANUAL

3rd Edition

Serial No. 2000831 and Higher (BVM-2010P)
(EBU N-10 LEVEL)

Serial No. 2000004 and Higher (BVM-2010PM)

Serial No. 2000040 and Higher (BVM-2010PD)
(EBU N-10 LEVEL)

Serial No. 2000001 and Higher (BVM-2010PMD)

Warning—This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.
"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC rules."
—or—
"This equipment complies with the requirements in Part 15 of FCC rules for a Class A Computing Device."
—or equivalent.

**For the customers in Canada**

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

**Pour les utilisateurs au Canada**

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.**

**VORSICHT!!**

Hinweis für den Benutzer
Das Gerät ist nicht für den Einsatz in Bildschirmarbeitsplätzen vorgesehen.

**CAUTION!!**

**DO NOT USE THE EXTERNAL DEGAUSSER TO DEMAGNETIZE THE SCREEN.**
**BE SURE TO USE THE DEGAUSS SWITCH ON THE FRONT PANEL.**

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**ATTENTION!!**

**NE PAS UTILISER DE DÉMAGNÉTISEUR EXTÉRITUR POUR DÉMAGNÉTISER L'ÉCRAN.**
**UTILISER LA TOUCH DE DÉMAGNÉTISATION (DEGAUSS) SUR LE PANNEAU FRONTAL.**

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# SECTION 1 OPERATION



# 1-1. OUTLINE

## 1-1-1. Features

The BVM-2010P/PM/PD/PMD is a color video monitor designed for critical evaluation of video signals in broadcasting stations and production houses.

### High resolution picture

The Super Fine Pitch Trinitron picture tube (0.3 mm aperture grille) gives a high resolution, high contrast picture. Horizontal resolution is more than 900 TV lines at the center of the picture.

### Stabilized color temperature

The newly-developed beam control circuit maintains the color temperature constant for a long period of time.

### Split screen for precise picture confirmation

The lower half of the picture can be displayed in monochrome mode while the upper half is displayed in color mode. This facilitates confirmation of the luminance and chrominance channels, evaluation of the noise in chrominance or luminance channel, etc.

### Blue only mode for precise evaluation of noise component

In blue only mode, an apparent monochrome display is obtained with all three control grids driven with a blue signal. This facilitates color saturation and phase adjustments and observation of VTR noise.

### Easy and precise convergence adjustment

The convergence can be adjusted at 15 points of the screen. This system facilitates adjustment of the peripheral areas of the screen.

### Digital video input connectors (Only for the BVM-2010PD/PMD)

The BVM-2010PD/PMD is equipped with two digital video input connectors which make it possible to monitor the digital video signals by connecting the Sony 4:2:2 component DVTR systems.

### Other features

- Three color standards selectable using the optional plug-in type decoder boards
- Picture set-up function facilitating adjustment of the monitor reference black for the black level of an incoming video signal
- Pulse cross function for simultaneous checking of the horizontal and vertical sync signals or VITS (Vertical Interval Test Signal)
- Built-in crosshatch and 100% white signal generators facilitating monitor set-up
- VITC (Vertical Interval Time Code) display possible using the optional VITC reader board
- Auto chroma/phase adjustment, auto white balance adjustment etc. are possible using the optional auto set-up adaptor.
- Precise setting of black level of the monitor is possible using the optional black level signal generator.

- A drawer containing convergence, white balance and preset controls, and other function selectors
- Auto and manual degaussing
- Three-position AFC switch
- Overdrive protection circuit to protect against picture tube damage
- EIA standard 19-inch rack mounting possible using the optional rack mount kit

# 1-1-2. Options

| Model No. | Product name | Board name | Use |
|---|---|---|---|
| BKM-1410 | NTSC ADAPTOR | BC | Decoder board for NTSC color system |
| BKM-1411 | NTSC COMB ADAPTOR | BB | Comb filter board for NTSC color system |
| BKM-1412 | NTSC COMB ADAPTOR | BT | Dynamic Comb filter board for NTSC color system |
| BKM-1420 | PAL ADAPTOR | BD | Decoder board for PAL color system |
| BKM-1421 | PAL-M ADAPTOR | BM | Decoder board for PAL-M color system |
| BKM-1422 | PAL COMB ADAPTOR | BT | Comb filter board for PAL color system |
| BKM-1430 | SECAM ADAPTOR | BE | Decoder board for SECAM color system |
| BKM-1440 | RGB/COMPONENT ADAPTOR | BF | Decoder outputs of RGB or component signals |
| BKM-1460 | VITC ADAPTOR | BL | Reader of Vertical Interval Time Code |
| BKM-1470 | SAFE AREA DISPLAY | BQ | For displaying the safe area |
| BKM-1480 | BLACK LEVEL SIGNAL GENERATOR | BS | For generating black level singnals |
| BKM-2056 | AUTO SET-UP ADAPTOR | BN<br>BO | Auto chroma/phase adjustment, auto white balance adjustment, selection of color temperature |
| BKM-2085 -20 | DIGITAL 4:2:2 SERIAL INPUT KIT | BA3<br>BV | For input of the component digital video signal |
| BKM-2090 -20 | D-2 SERIAL INPUT KIT | BA3<br>BU | For input of the composite digital video signal |
| BKM-2000 | RACK MOUNT KIT | — | For EIA standard 19 inch rack mounting |

## Combinations of the optional boards

The BVM-2010P/PD is supplied with the BD circuit board (PAL color system decoder), while the BVM-2010PM/PMD is supplied with the BM circuit board (PAL-M color system decoder). BVM-2010PD/PMD is also equipped with the BR circuit board (digital interface).
You can choose up to five optional B boards below including BD, BM or BR. The combinations of the B boards are limited depending on which boards can be accepted for each board compartment.

B1 through B5 compartments accept the boards as follows:

| Board name (Function) | Compartment name | | | | |
|---|---|---|---|---|---|
| | B5 | B4 | B3 | B2 | B1 |
| BB (NTSC COMB FILTER) | X | O | O | O | O |
| BT (NTSC COMB FILTER) | O | O | O | O | O |
| BT (PAL COMB FILTER) | O | O | O | O | O |
| BC (NTSC DECODER) | O | O | O | O | O |
| BD (PAL DECODER) | O | O | O | O | O |
| BE (SECAM DECODER) | O | O | O | O | O |
| BM (PAL-M DECODER) | O | O | O | O | O |
| BF (RGB/COMPONENT) | X | X | O | X | X |
| BL (VITC) | X | X | X | O | X |
| BQ (SAFE AREA DISPLAY) | X | △ | X | O | X |
| BS (BLACK LEVEL SIGNAL GENERATOR) | O | O | O | O | O |
| BN<br>BO (AUTO SET-UP ADAPTOR) | O | O | X | X | X |
| BV (Digital 4:2:2 serial interface) | X | X | X | X | O |
| BU (D-2 serial interface) | X | X | X | X | O |

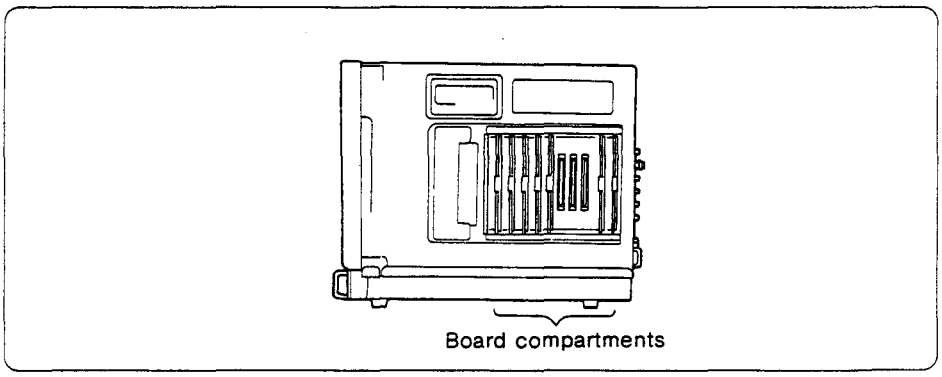
O: acceptable
X: not acceptable
△: acceptable but the switch or control settings on the sub control panels cannot control the display.

**Notes**

- Insert BA, BG, BH, BI and BJ boards into their respective compartments of the same name.
- Do not leave B5 compartment blank. Insert one of the boards specified in the above table. If no board is inserted, the luminance/chrominance or luminance channel will not be activated in composite signal mode.
- Do not insert BD (PAL DECODER) and BM (PAL-M DECODER) boards simultaneously. This causes malfunction of the monitor.
- Do not insert BB (NTSC COMB FILTER) and BT (NTSC COMB FILTER) boards simultaneously. This causes malfunction of the monitor.

For details on installation, refer to the operation and maintenance manual of the optional board.

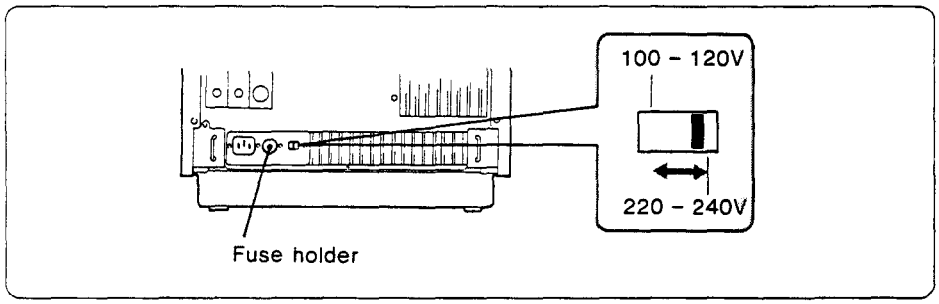
Right view (with the cabinet removed)



# 1-2. VOLTAGE SELECTION



The monitor operates on either 220 – 240 or 100 – 120V AC. Before connecting the unit to an AC outlet, make sure the voltage selector at the rear of the unit is set to the local power line voltage. Change the position of the selector if necessary.



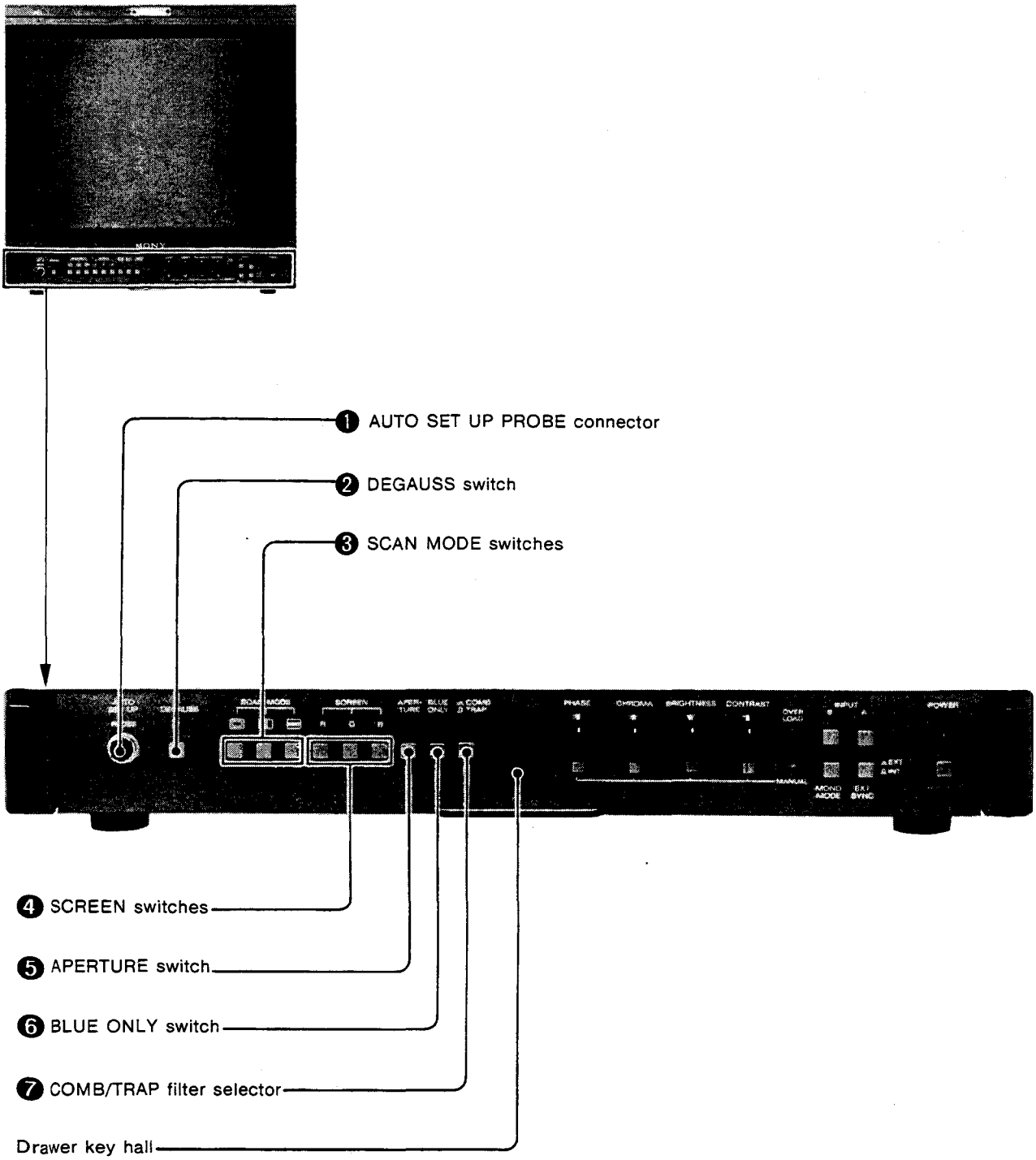

**Note**

Use a T2A/250V fuse for 220 – 240V AC operation, and a 4A/125V fuse for 100 – 120V AC operation. The appropriate fuse is installed at the factory in accordance with the voltage presetting. If you change the voltage selector setting, replace the fuse with an appropriate one.

# 1-3. LOCATION AND FUNCTION OF CONTROLS

## 1-3-1. Front Panel

**Common to the BVM-2010P/PM/PD/PMD**



**❶ AUTO SET UP PROBE connector**
Connect the optional BKM-2053 or BKM-2052 auto set-up probe.

**❷ DEGAUSS switch**
When the power is turned on, automatic degaussing is activated.
To demagnetize the screen manually, press this switch momentarily with the power turned on.
Wait for 5 minutes or more before activating degaussing again.

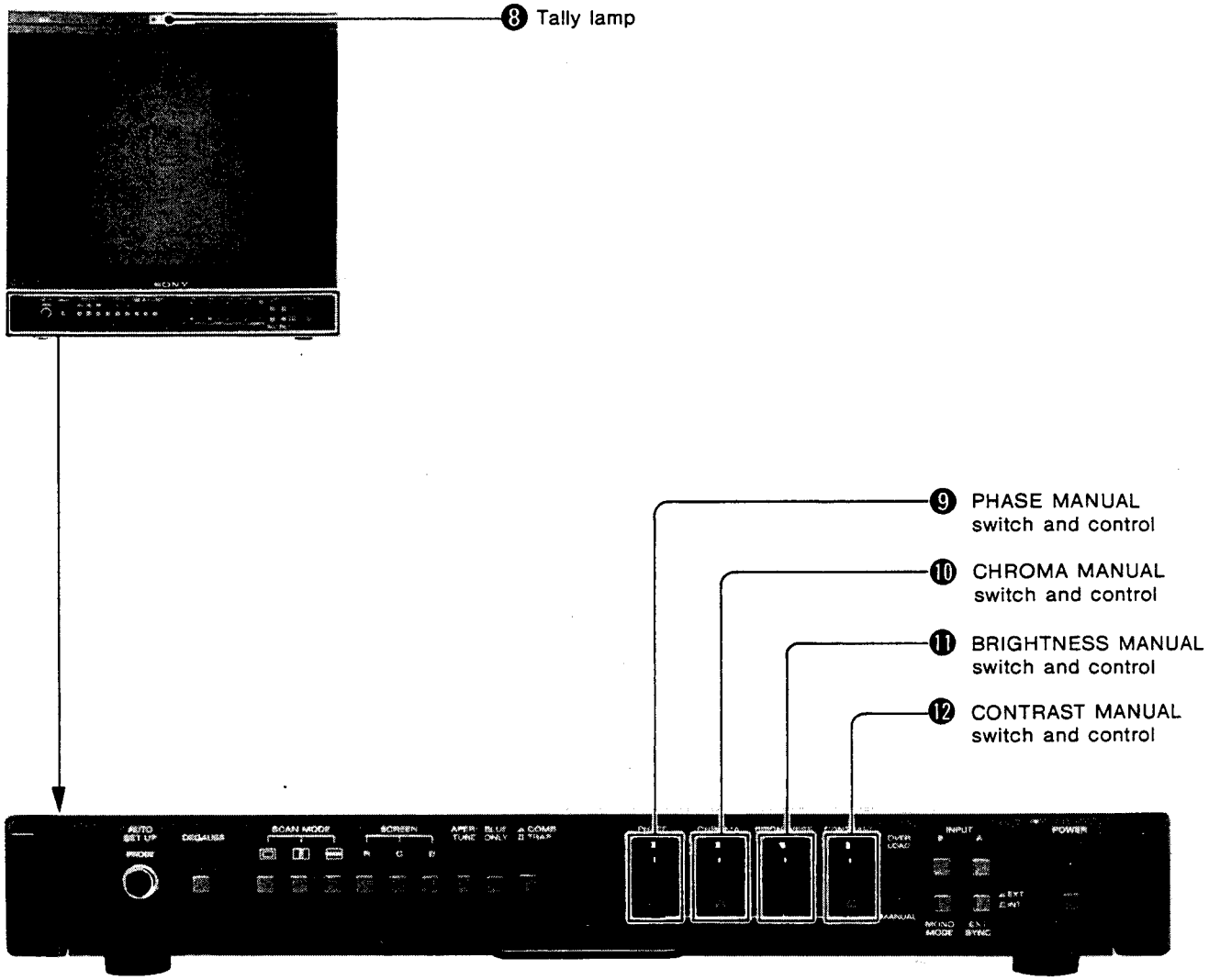
**❸ SCAN MODE switches**
**(underscan):** Depress this switch for underscanning. The display size is reduced by approximately 3% so that four corners of the raster are visible.
**(horizontal delay):** Depress this switch to observe the horizontal sync signal. The picture is shifted horizontally and the horizontal sync signal is displayed in the left quarter of the screen. Picture brightness is automatically increased for easy observation.
**(vertical delay):** Depress this switch to observe the vertical sync signal. The picture is shifted vertically and the vertical sync signal is displayed near the center of the screen. Picture brightness is automatically increased for easy observation.
- A pulse cross is displayed by depressing both the and switches.
- To resume normal scanning, press to release the depressed switches.

**❹ SCREEN switches**
The R, G and B switches turn the red, green and blue beams respectively on and off. To turn off the beam, depress the switch. To turn it on again, press to release it.

**❺ APERTURE switch**
Normally keep this switch released. A flat frequency response is obtained.
For aperture correction, depress this switch and adjust the APERTURE control inside the drawer. The boost frequency, 4.5 MHz or 6.5 MHz, can be selected with the S1 switch on the BG board.
At the 4.5 MHz position, the frequency response can be adjusted continuously with up to 6 dB boost at 4.5 MHz for subjective enhancement of the displayed picture.
At the 6.5 MHz position, the frequency response can be adjusted continuously with up to 6 dB boost at 6.5 MHz for compensation of the aperture loss of the CRT.

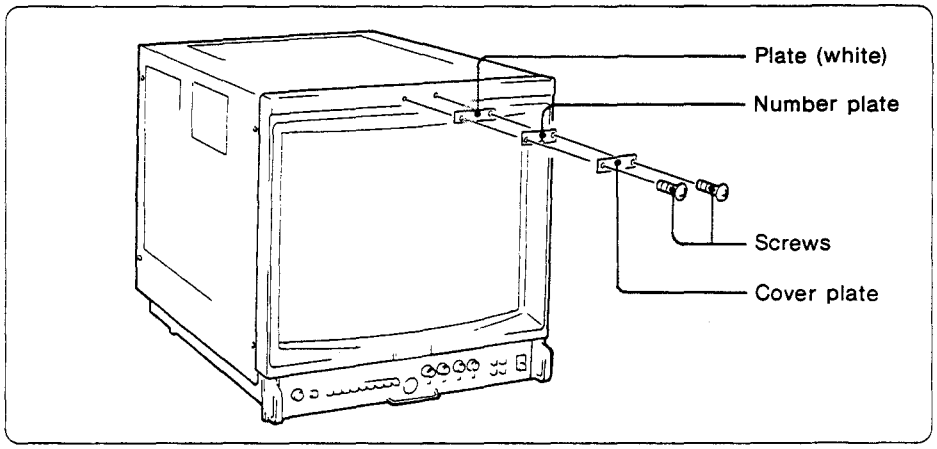
**❻ BLUE ONLY switch**
Normally keep this switch released. Depress this switch to turn off the red and green signals. A blue signal is displayed as an apparent monochrome picture on the screen. This facilitates CHROMA and PHASE control adjustments and observation of VTR noise.

**❼ COMB/TRAP filter selector**
This selector is effective for the NTSC color system only, with the BKM-1410 NTSC adaptor and the BKM-1411 or BKM-1412, NTSC comb adaptor installed. Depress the selector to activate the comb filter (⊓COMB). Press to release it for the trap filter (⊔TRAP).
When the BKM-1411 or BKM-1412, NTSC comb adaptor is not installed, or when a color system other than NTSC is selected, the trap filter is always activated regardless of this selector setting.


8 Tally lamp
9 PHASE MANUAL switch and control
10 CHROMA MANUAL switch and control
11 BRIGHTNESS MANUAL switch and control
12 CONTRAST MANUAL switch and control

**⑧ Tally lamp**

The lamp lights when No. 3 and No.8 pins of the REMOTE connector on the rear panel are shortcircuited.
Attach one of the supplied tally number plates instead of the model number plate, as illustrated below.




**⑨ PHASE MANUAL switch and control**

When this switch is in the released position, the subcarrier phase preset with the PRESET PHASE control inside the drawer is obtained. To adjust the subcarrier phase manually, depress this switch and turn this control.
(This control is not effective when the COLOR STANDARD PAL button is depressed and the PAL D/S selector is set to D, or when the COLOR STANDARD SECAM button is pressed.)

**⑩ CHROMA MANUAL switch and control**

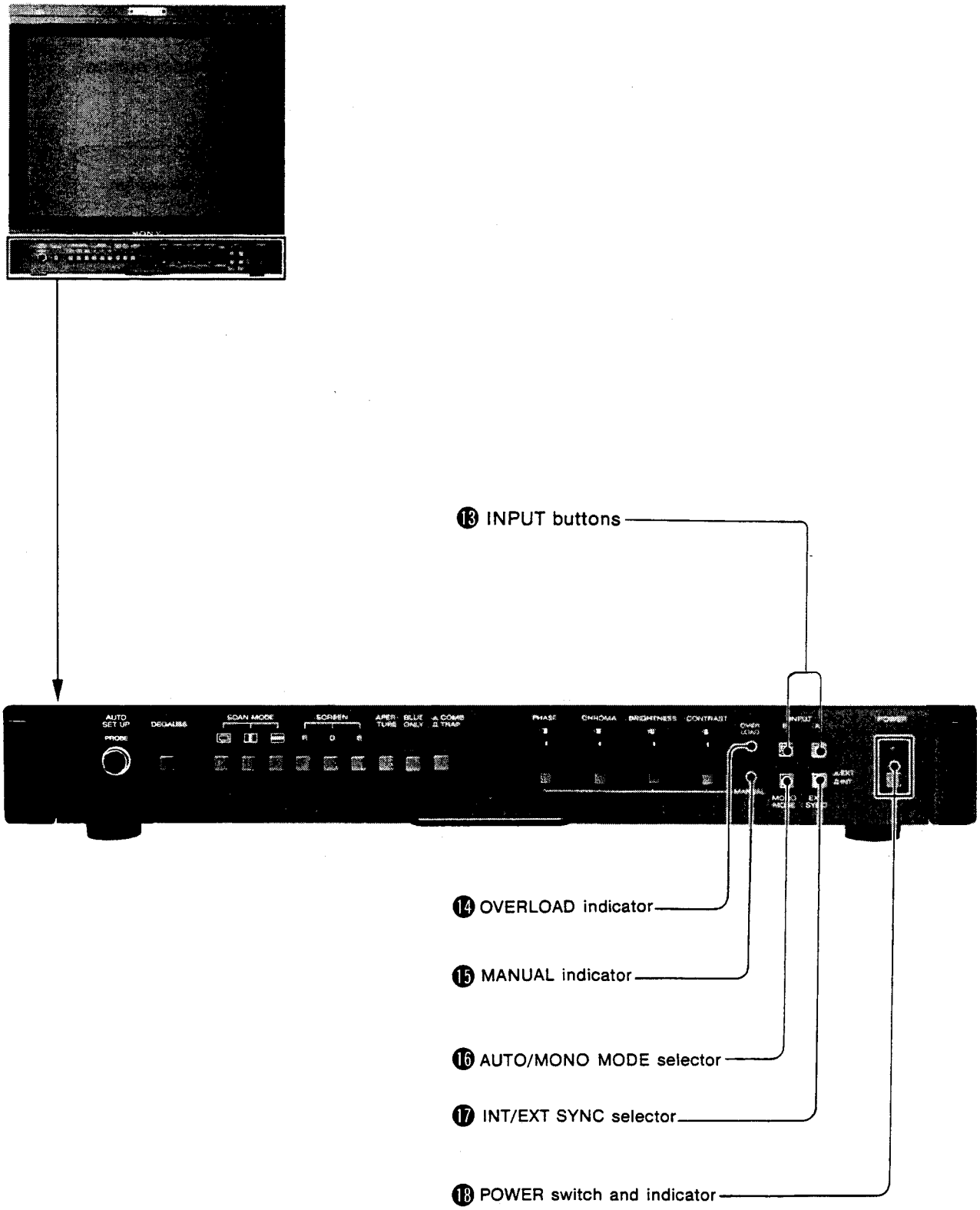
When this switch is in the released position, the color saturation preset with the PRESET CHROMA control inside the drawer is obtained. To adjust the color saturation manually, depress this switch and turn this control.

**⑪ BRIGHTNESS MANUAL switch and control**

When this switch is in the released position, the brightness preset with the PRESET BRIGHTNESS control inside the drawer is obtained. To adjust the brightness manually, depress this switch and turn this control.

**⑫ CONTRAST MANUAL switch and control**

When this switch is in the released position, the contrast preset with the PRESET CONTRAST control inside the drawer is obtained. To adjust the contrast manually, depress this switch and turn this control.


⑬ INPUT buttons
⑭ OVERLOAD indicator
⑮ MANUAL indicator
⑯ AUTO/MONO MODE selector
⑰ INT/EXT SYNC selector
⑱ POWER switch and indicator

**⓭ INPUT buttons**
Select the input signal.

**BVM-2010P/PM**

**A:** To monitor the signals connected to the VIDEO A INPUT connector, depress this button.
**B:** To monitor the signals connected to the VIDEO B INPUT connector, depress this button and press the INPUT SELECT "B" button inside the drawer.

**BVM-2010PD/PMD**

**A:** To monitor the signals being fed to the VIDEO A INPUT connector or DIGITAL A INPUT connector, depress this button.
**B:** To monitor the signals being fed to the VIDEO B INPUT connector or DIGITAL B INPUT connector, depress this button and press the INPUT SELECT "B" button inside the drawer.

For details on input selection, refer to "INPUT SELECT buttons" on page 1-21.

**⓮ OVERLOAD indicator**
This indicator lights to warn of overdrive of the CRT.

**⓯ MANUAL indicator**
This indicator lights when any of the MANUAL switches ❾ through ⓬ is depressed.

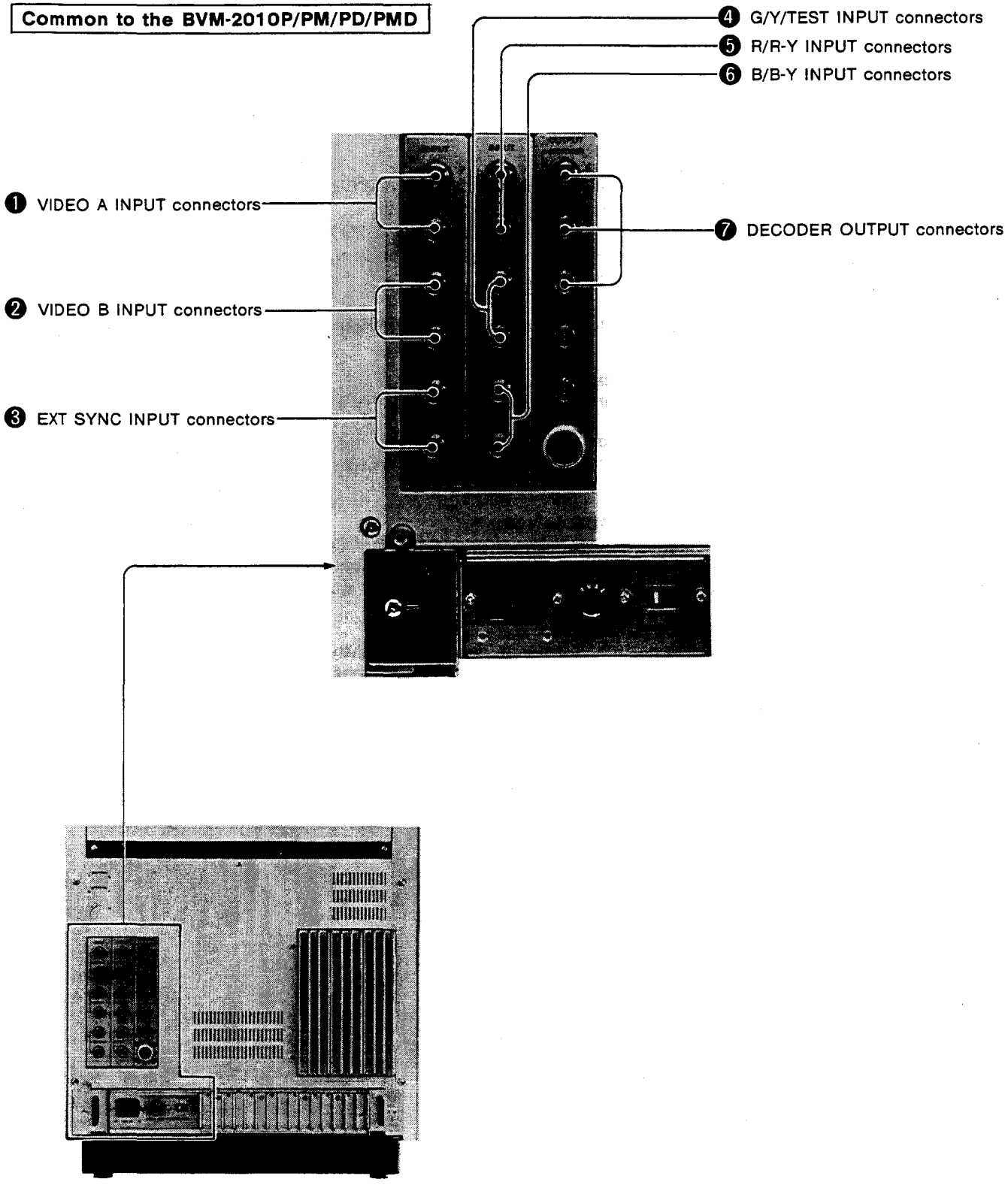
**⓰ AUTO/MONO MODE selector**
Normally keep this selector released (AUTO). Color or monochrome mode is automatically selected according to the presence or absence of color burst. Depress the selector (MONO) to display the monochrome picture.

**⓱ INT/EXT SYNC selector**
Normally keep this selector released (INT). The monitor operates on the sync signal from the displayed composite video signal. To operate the monitor on an external sync signal supplied from the EXT SYNC connector on the rear panel, depress the selector (EXT).

**⓲ POWER switch and indicator**
Depress this switch to turn on the power. The POWER indicator will light. To turn the power off, press the switch again.

# 1-3-2. Rear Panel

**Common to the BVM-2010P/PM/PD/PMD**



❶ **VIDEO A INPUT connectors** (BNC)
❷ **VIDEO B INPUT connectors** (BNC)
Accept video signals. Use one connector for input and the other for loop-through output.
When the loop-through output is not used, attach a 75-ohm terminator.

❸ **EXT SYNC INPUT (external sync input) connectors** (BNC)
Accept sync signals.
Use one connector for input and the other for loop-through output.
When the loop-through output is not used, attach a 75-ohm terminator.

❹ **G/Y/TEST INPUT connectors** (BNC)
❺ **R/R-Y INPUT connectors** (BNC)
❻ **B/B-Y INPUT connectors** (BNC)
Input an RGB, component (Y, R-Y, B-Y) or test signal. The input signal can be selected with the INPUT SELECT buttons on the sub control panel. Use one connector for input and the other for loop-through output. When the loop-through output is not used, attach a 75-ohm terminator.

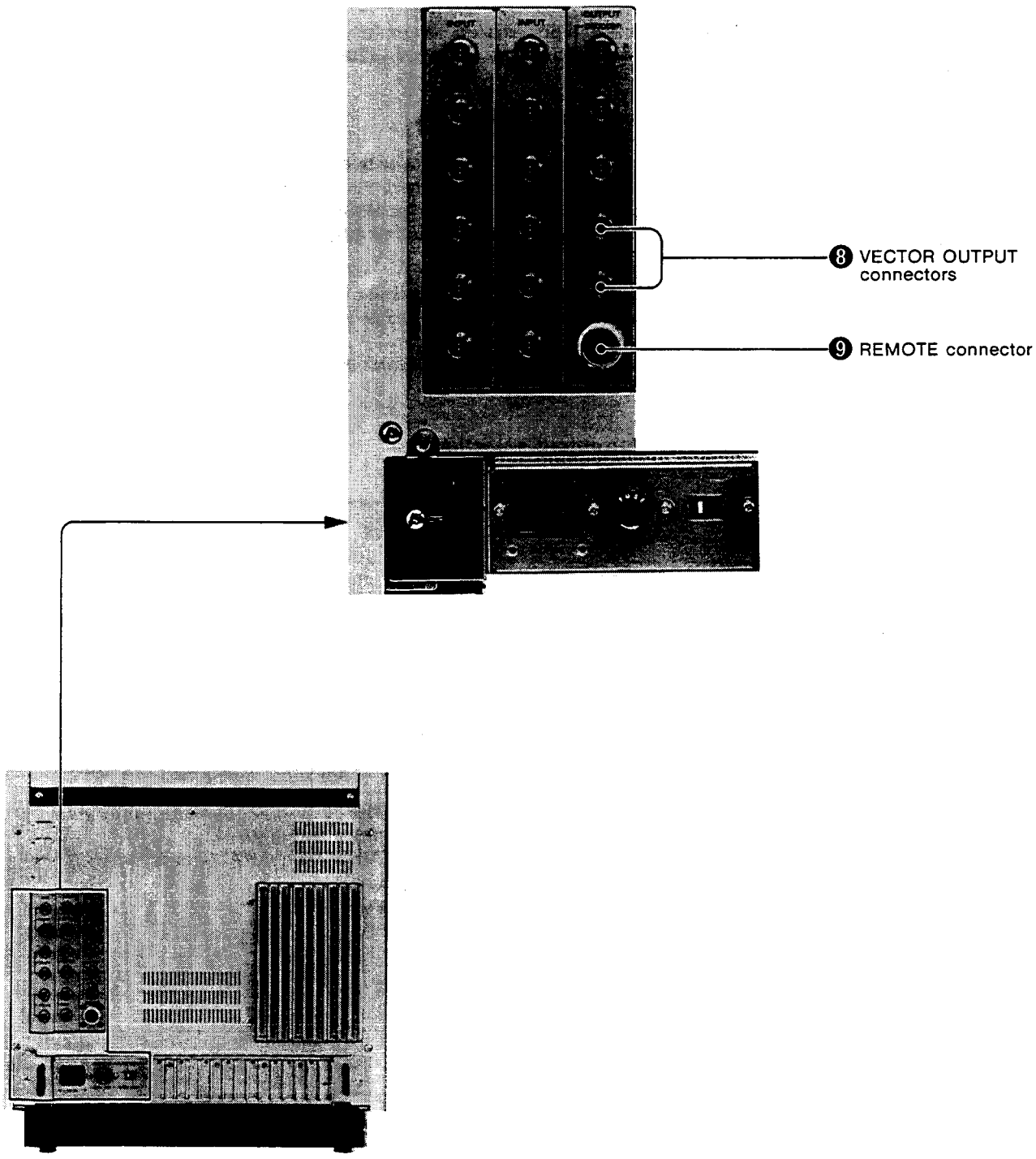
❼ **DECODER OUTPUT connectors** (BNC)
These connectors provide RGB or component (Y, R-Y, B-Y) outputs decoded from the signals displayed on the screen, only when the BKM-1440 RGB/component adaptor is installed.
The RGB or component outputs are selected with the S1 selector on the BF board of the BKM-1440 kit.

**Quick reference for output selection**

| Output signal / Operation | Component | RGB |
|---|---|---|
| S1 selector on BF board | Lower position | Upper position |
| Input signal | Encoded VIDEO A, VIDEO B, TEST or component | |
| Output connectors | DECODER OUTPUT (R/R-Y, G/Y, B/B-Y) | |

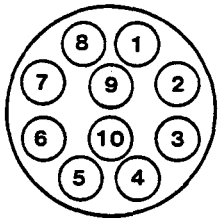
**Notes**

- The DECODER OUTPUT connectors do not provide the correct RGB outputs from the displayed RGB signals. For RGB outputs, use the loop-through outputs of the R/G/B input connectors.
- The outputs from non-composite signals are also non-composite. Supply sync signals from the EXT SYNC INPUT connector if required.
- The output signals are affected by the CHROMA, PHASE and APERTURE controls and MATRIX switch.
- The color killer is not activated for output signals.


8 VECTOR OUTPUT connectors
9 REMOTE connector

**⑧ VECTOR OUTPUT connectors** (BNC)
Provide R-Y and B-Y demodulated chroma outputs. Connect the Tektronix 1424 display unit or equivalent to provide vector displays. Connect the R-Y connector to the Y input of the display unit, and the B-Y connector to the X input.

**⑨ REMOTE connector** (10-pin)
Use the supplied 10-pin connector.




To enter remote control mode, short-circuit pin No. 5 with pin No. 8.
The relationship between the function and pin connections in remote control mode are shown below.

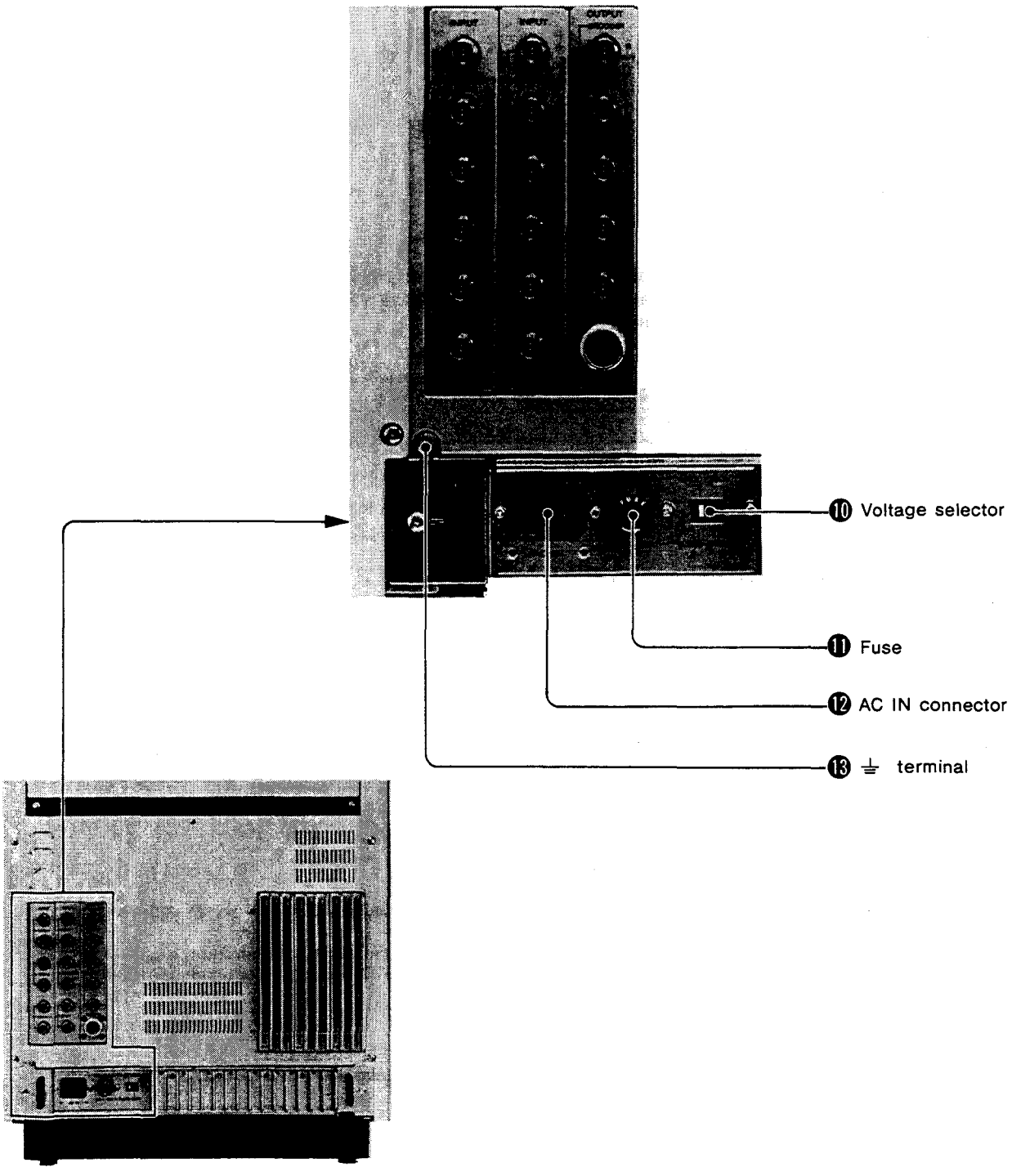
| Function | | | Pin No. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| INPUT* | SYNC* | MODE* | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| VIDEO A | INT | AUTO | O | O | – | O | S | – | – |
| | | MONO | S | O | – | O | S | – | – |
| | EXT | AUTO | O | O | – | S | S | – | – |
| | | MONO | S | O | – | S | S | – | – |
| VIDEO B | INT | AUTO | O | S | – | O | S | – | – |
| | | MONO | S | S | – | O | S | – | – |
| | EXT | AUTO | O | S | – | S | S | – | – |
| | | MONO | S | S | – | S | S | – | – |
| VITC OFF** | | | – | – | – | – | – | S | – |
| VITC HOLD** | | | – | – | – | – | – | O | S |
| TALLY ON | | | – | – | S | – | – | – | – |

S: Short-circuit with pin No. 8.
O: Open
–: Either S or O.

* Remote control operations have priority over the MODE, INPUT and SYNC selectors on the front panel.
** To remotely control the VITC display, first set the VITC switch inside the drawer to ON and then short-circuit pin 6 or 7 with pin 8. (For VITC display, the optional BKM-1460 is required.)

**Note**

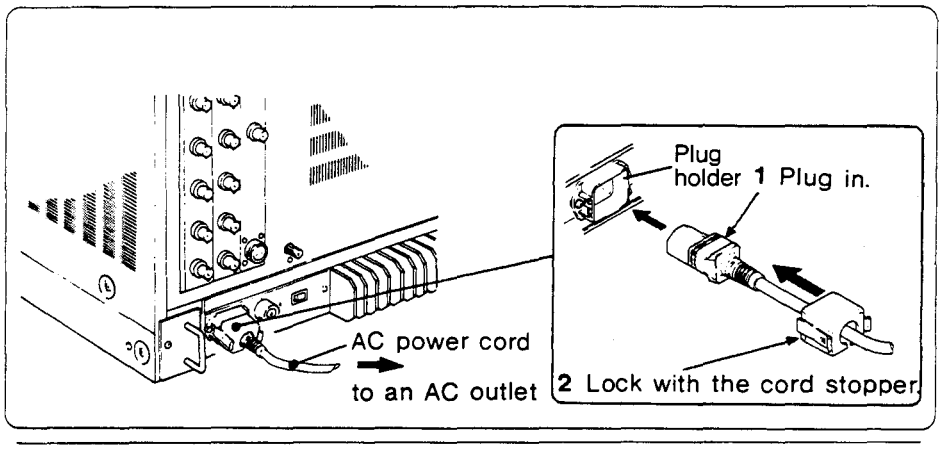
For remote control operations, be sure to depress the INPUT SELECT "B" button inside the drawer.


⑩ Voltage selector
⑪ Fuse
⑫ AC IN connector
⑬ ⏚ terminal

**⑩ Voltage selector**
Set to the local power line voltage, 220 – 240V AC or 100 – 120V AC.

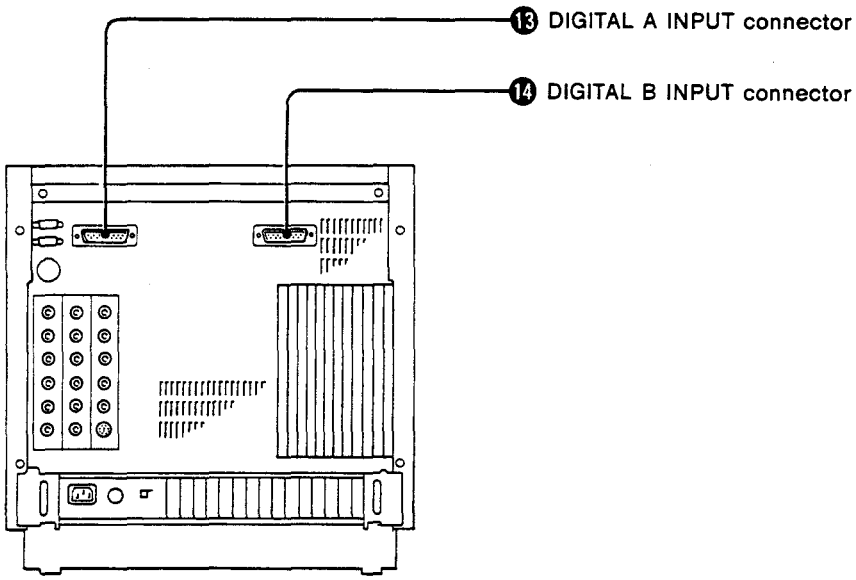
**⑪ Fuse**
Use a T2A fuse for operation on 220 – 240V AC, or a 4A fuse for operation on 100 – 120V AC.

**⑫ AC IN connector**
Connect the supplied AC power cord here and secure it with the supplied cord stopper, if required.




**⑬ Ground (⏚) terminal**
Connect to the system ground, if necessary.

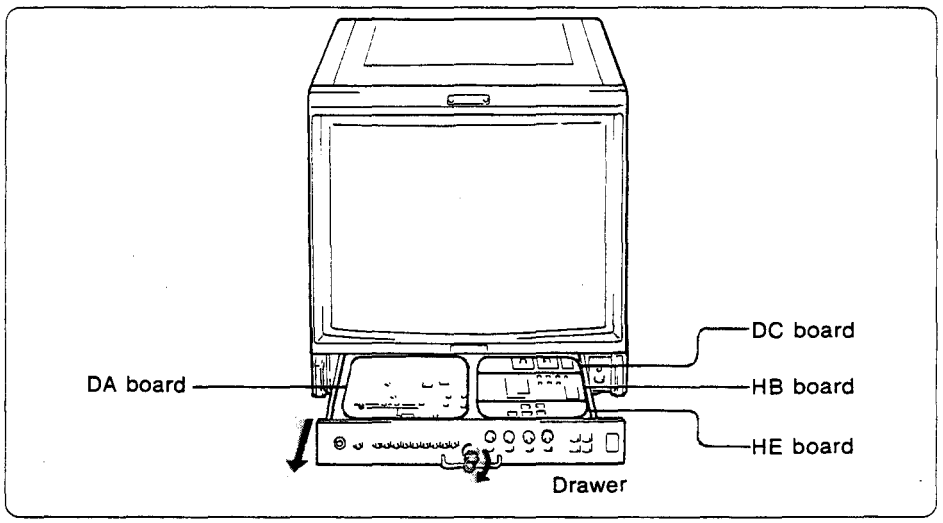
**Only for the BVM-2010PD/PMD**




**⑬ DIGITAL A INPUT connector** (D-SUB 25-pin)
**⑭ DIGITAL B INPUT connector** (D-SUB 25-pin)
Accept RP-125 or Tech 3246-E standard video signals from the Sony 4:2:2 component DVTR system.

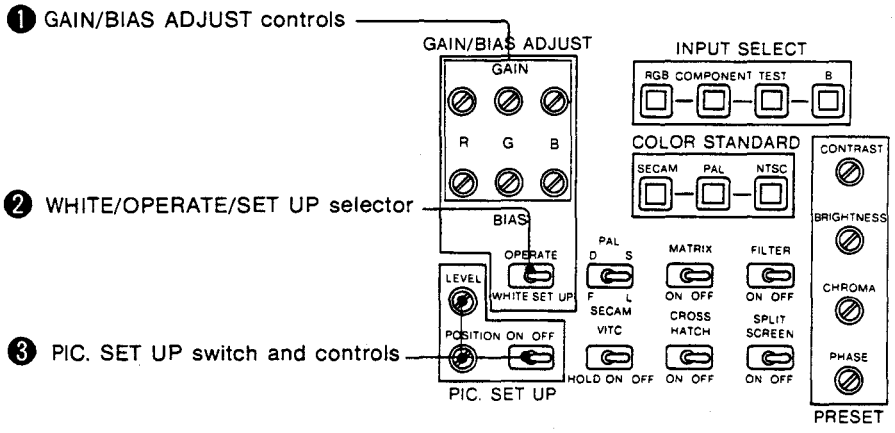
# 1-3-3. Sub Control Panels inside the Drawer

Insert the supplied key into the keyhole of the drawer lock, turn it 90° clockwise and pull the drawer out.




- Adjust the controls on the sub control panels when the monitor is fully warmed up. Warm-up time will be at least 30 minutes after the power has been turned on.
- Adjust the control using the supplied screwdriver.

**HB board** (Function selection and white balance adjustment section)




❶ **GAIN/BIAS ADJUST controls**

Used for white balance adjustment.

GAIN and BIAS controls are provided for the R (red), G (green) and B (blue) screens.

**BIAS:** Set the WHITE/OPERATE/SET UP selector to SET UP and adjust the white balance and brightness of the screen at the lowlight with these controls.

**GAIN:** Set the WHITE/OPERATE/SET UP selector to WHITE and adjust the white balance and contrast of the screen at the highlight with these controls. For details on the white balance adjustment, refer to "1-5. WHITE BALANCE ADJUSTMENT" on page 1-36.

❷ **WHITE/OPERATE/SET UP selector**

**OPERATE:** Normally set to this position for normal monitoring.

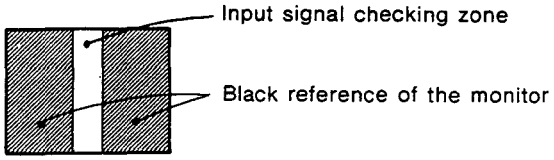
**WHITE:** When adjusting the white balance at the highlight, set to this position. Internal 100% white signal is displayed on the screen.

**SET UP:** When adjusting the white balance at the lowlight, set to this position. A horizontal white bar of approximately 1/3 the screen height is displayed.

❸ **PIC. SET UP (picture set up) switch and controls**

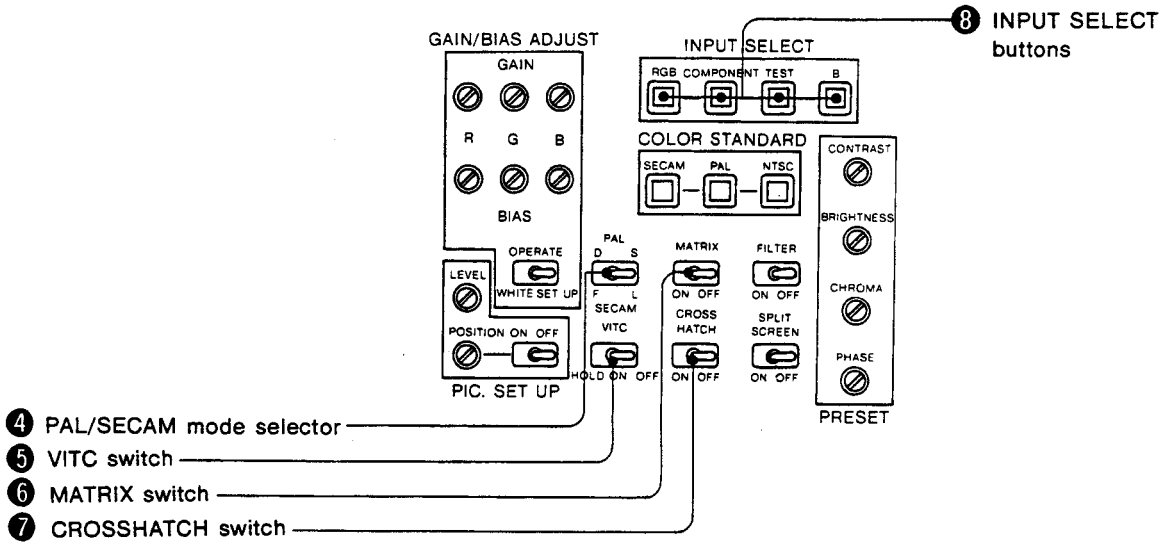
Used to match the black reference of the monitor with the black level of the input signal.

**ON/OFF switch:** When this switch is set to ON, a vertical picture band and the black reference of the monitor are displayed on the screen for easy level comparison.




**POSITION control:** Move the position of the picture band horizontally so that the black signal of the picture is located next to the black reference area.

**LEVEL control:** Adjust this control to match the brightness of the black reference area with that of the input black signal.




**❹ PAL/SECAM mode selector**

This selector functions as the PAL D/S selector for PAL color system, and as the SECAM F/L selector for SECAM color system.

**PAL D/S selector:** Selects the demodulation mode of the PAL system, D (deluxe) or S (simple). Normally set to D.

**SECAM F/L selector:** Selects the ID signal of the SECAM system, L (line) or F (field). Normally set to L.

**❺ VITC (Vertical Interval Time Code) switch**

This switch functions only when the optional BKM-1460 VITC adaptor is installed.

**ON:** Set to this position to display the VITC.

**OFF:** To turn off the VITC display.

**HOLD:** To hold the VITC figure, press the switch momentarily to this position. To run the VITC again, press the switch to this position again.

**❻ MATRIX switch**

Normally set this switch to OFF. Set to ON to activate the matrix circuit so that the chromaticity of the displayed picture more closely approximates to that of "true" NTSC phosphors.

**❼ CROSSHATCH switch**

Set to ON to display the internal crosshatch pattern for adjusting convergence, etc.

The crosshatch pattern is synchronized to the selected composite sync signal.

### ⑧ INPUT SELECT buttons

To monitor one of the following four input signals, depress the INPUT B selector on the front panel and press the appropriate button.

**RGB:** To monitor the R/G/B signals connected to the R/R-Y, G/Y/TEST and B/ B-Y connectors

**COMPONENT:** To monitor the component (R-Y, Y and B-Y) signals connected to the R/R-Y, G/Y/TEST and B/B-Y connectors

**TEST:** To monitor the composite video signals connected to the G/Y/TEST connector

**B:** **BVM-2010P/PM** To monitor the composite video signals connected to the VIDEO B INPUT connector

**BVM-2010PD/PMD** To monitor the composite video signals connected to the VIDEO INPUT B connector or to monitor the digital video signal connected to the DIGITAL B INPUT connector

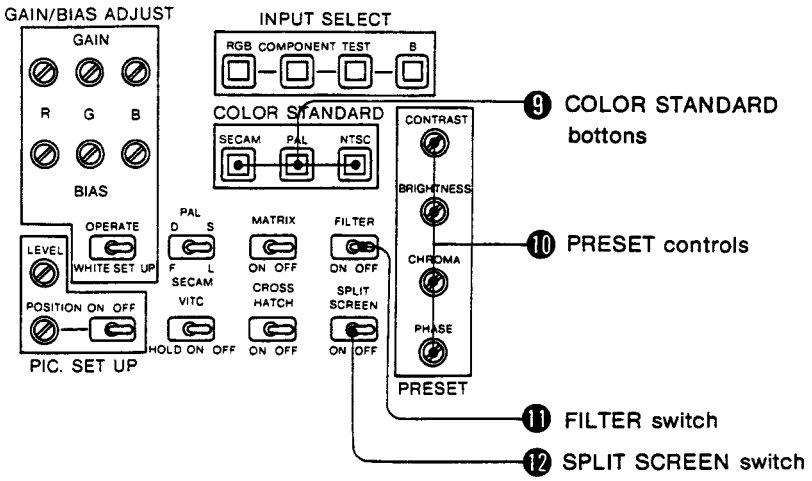
### Quick reference for input selection

**BVM-2010P/PM**

| Input signal / Operation | Encoded video | | | Component | RGB |
|---|---|---|---|---|---|
| | VIDEO A | VIDEO B | TEST | | |
| INPUT selectors (front panel) | A | B | B | B | B |
| INPUT SELECT buttons (Inside the drawer) | | B | TEST | COMPONENT | RGB |
| INPUT connectors | VIDEO A | VIDEO B | G/Y/TEST | R/R-Y, G/Y/TEST, B/B-Y | R/R-Y, G/Y/TEST, B/B-Y |

**BVM-2010PD/PMD**

| Input signal / Operation | Encoded video | | | 4:2:2 digital | | Component B | RGB |
|---|---|---|---|---|---|---|---|
| | VIDEO A | VIDEO B | TEST | DIGITAL A | DIGITAL B | | |
| INPUT buttons (Front panel) | A | B | B | A | B | B | B |
| INPUT SELECT button (Inside the drawer) | | B | TEST | | B | COMPONENT | RGB |
| COLOR STANDARD buttons (Inside the drawer) | SECAM PAL | SECAM PAL | SECAM PAL | DIGITAL | | | |
| INPUT connectors | VIDEO A | VIDEO B | G/Y/ TEST | DIGITAL A | DIGITAL B | R/R-Y G/Y/TEST B/B-Y | |




**9 COLOR STANDARD buttons**

Select the color standard of the input picture.
For displaying the picture of each color standard, the appropriate decoder board (optional) should be installed. See page 1-2.

**BVM-2010P/PM**

**SECAM:** For SECAM standard
**PAL:** For PAL or PAL-M standard
**NTSC:** For NTSC standard

**BVM-2010PD/PMD**

**DIGITAL (SECAM):** For digital video signal (or SECAM standard*)
**PAL:** For PAL or PAL-M standard
**NTSC:** For NTSC standard

**Note**

If the decoder board for the selected color system is not installed:

- The picture does not appear on the screen when the FILTER switch is set to ON.
- The picture is displayed in monochrome mode when the FILTER switch is set to OFF.

**10 PRESET controls**

Adjust the preset levels.
**CONTRAST:** Preset the picture contrast level.
**BRIGHTNESS:** Preset the picture brightness level.
**CHROMA:** Preset the color saturation level.
**PHASE:** Preset the subcarrier phase.

**11 FILTER switch**

This switch functions only when the AUTO/MONO MODE selector on the front panel is set to MONO.
Normally set to ON to activate the comb or trap filter. Set to OFF to deactivate the filter for a wider frequency range.

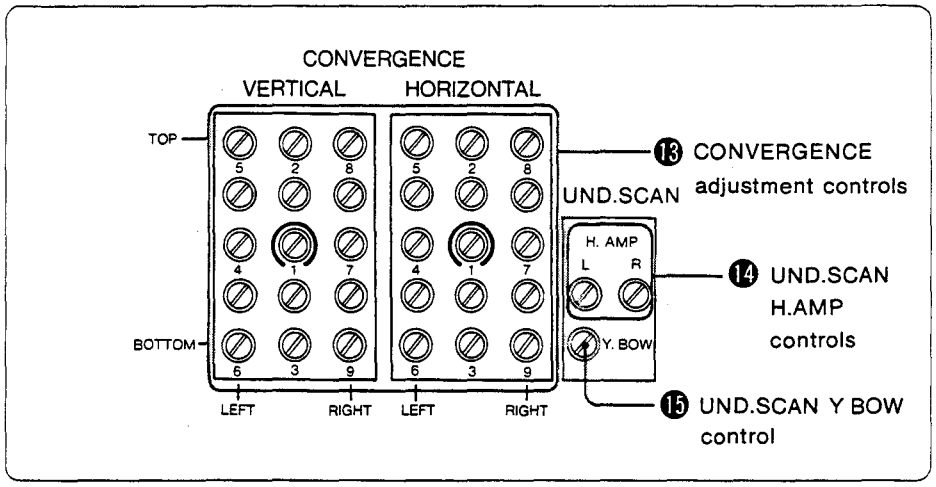
- When the MODE selector is set to AUTO, the filter is always activated for color signals regardless of this switch setting.

**12 SPLIT SCREEN switch**

Normally set to OFF. When this switch is set to ON, the lower half of the picture is displayed in monochrome mode.

* To monitor the SECAM standard video signal, mount the BKM-1430 on the unit and set the COLOR STANDARD selector on the BR board to the upper or middle position. See page 1-31.

**DC board** (Convergence adjustment section)




### ⓭ CONVERGENCE adjustment controls

Used to adjust the convergence of the normal picture. The VERTICAL controls adjust the convergence vertically; the HORIZONTAL controls adjust it horizontally. 15 controls cover the entire screen so that each control adjusts the corresponding portion of the screen.
Refer to "1-4. CONVERGENCE ADJUSTMENT" on page 1-32.

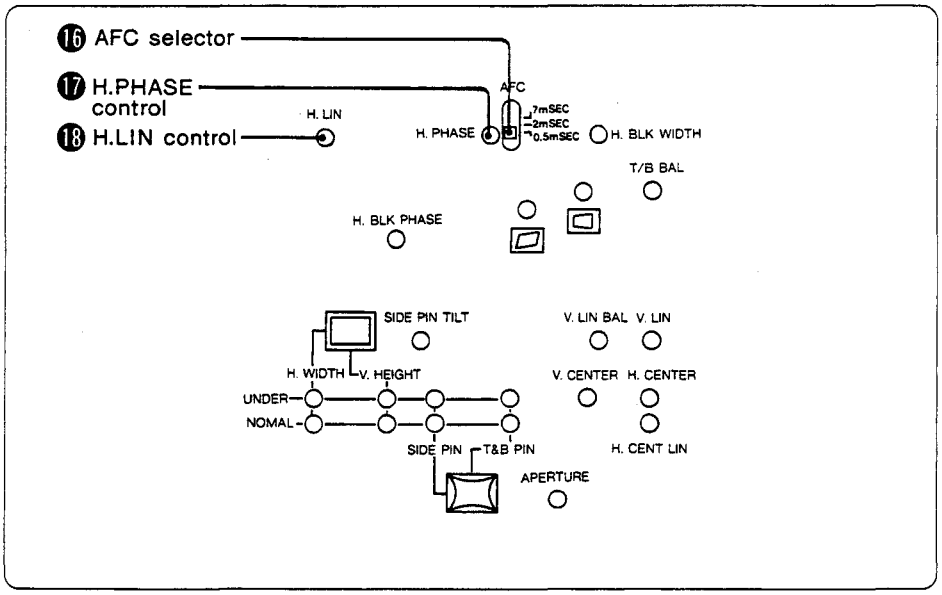
### ⓮ UND.SCAN H.AMP (underscan horizontal amplifier) control

Used to adjust the horizontal convergence of the underscanned picture. See 1-4-2.

### ⓯ UND.SCAN Y BOW (underscan Y bow) control

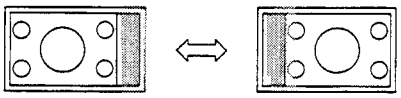
Used to adjust the horizontal convergence at the top and bottom of the center of the underscanned picture. See 1-4-2.

**DA board** (H.V. oscillator section)

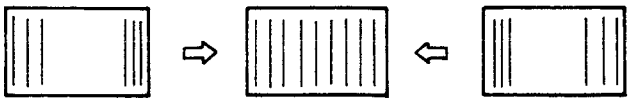


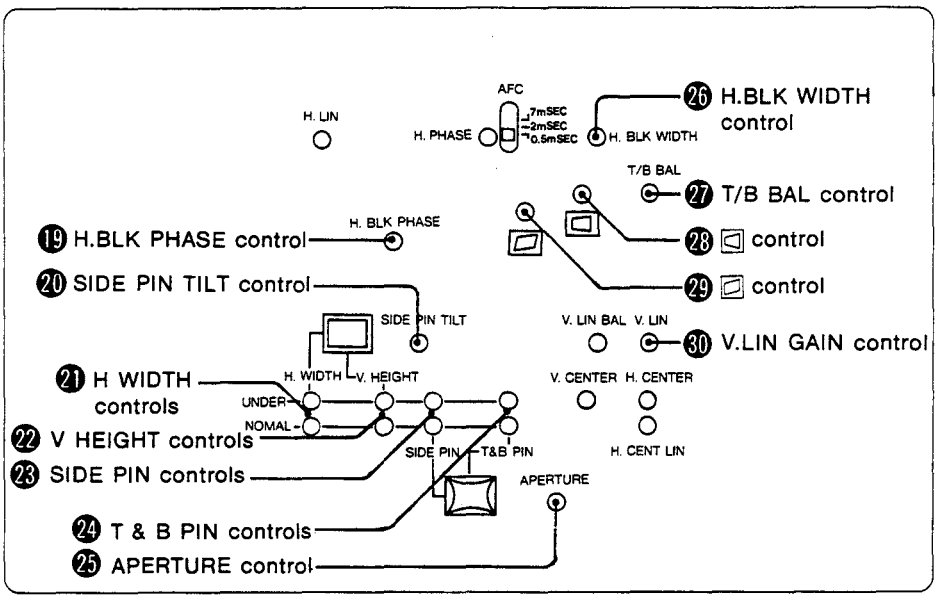

**⑯ AFC (automatic frequency control) selector**
Selects the AFC time constant.
**0.5 mSEC (fast):** This mode is fast enough to correct for VTR jitter. Set to this position to obtain a stable playback picture from a VTR.
**2 mSEC (normal):** Normally set to this position.
**7 mSEC (slow):** This mode is slow enough to display the time base instability introduced by mechanical jitter, in the VTR playback signal.

**⑰ H.PHASE (horizontal phase) control**
Used to adjust the horizontal position of the picture.

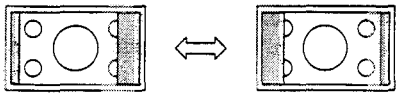


**⑱ H.LIN (horizontal linearity) control**
Used to adjust the horizontal linearity of the picture.

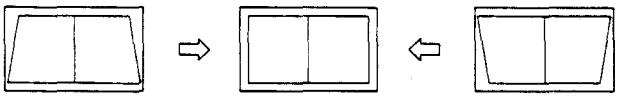





**⑲ H.BLK PHASE (horizontal blanking phase) control**
Used to adjust the phase of the horizontal blanking at both sides of the screen.



**⑳ SIDE PIN TILT (side pincushion tilt) control**
Used to adjust the phase of the side pincushion distortion.



**㉑ H WIDTH (horizontal width) controls**
Adjust the horizontal width of the picture. Use the NORMAL control for the normal picture,and the UNDER control for the underscanned picture.

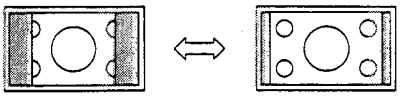
**㉒ V HEIGHT (vertical height) controls**
Adjust the height of the picture. Use the NORMAL control for the normal picture, and the UNDER control for the underscanned picture.

**㉓ SIDE PIN (pincushion) controls**
Correct the side pincushion distortion. Use the NORMAL control for the normal picture, and the UNDER control for the underscanned picture.

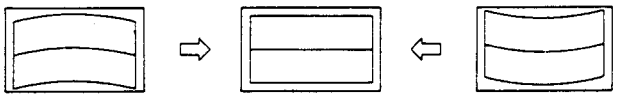
㉔ **T & B PIN (top and bottom pincushion) distortion controls**
Correct the top and bottom picushion distortion. Use the NORMAL control for the normal picture, and the UNDER control for the underscanned picture.

㉕ **APERTURE control**
Adjusts the frequency response when the APERTURE switch on the front panel is depressed.

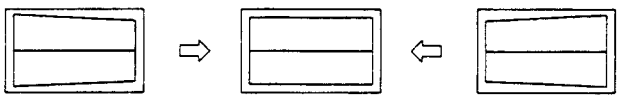
㉖ **H.BLK WIDTH (horizontal blanking width) control**
Used to adjust the width of the horizontal blanking.



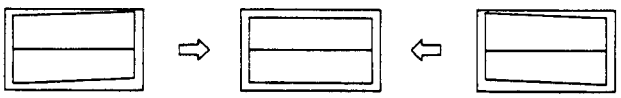
㉗ **T/B BAL (top and bottom pincushion balance) control**
Used to adjust the distortion at the center (X axis) of the picture.



㉘ **⧈ (trapezoid distortion) control**
Used to correct the horizontal trapezoid distortion.

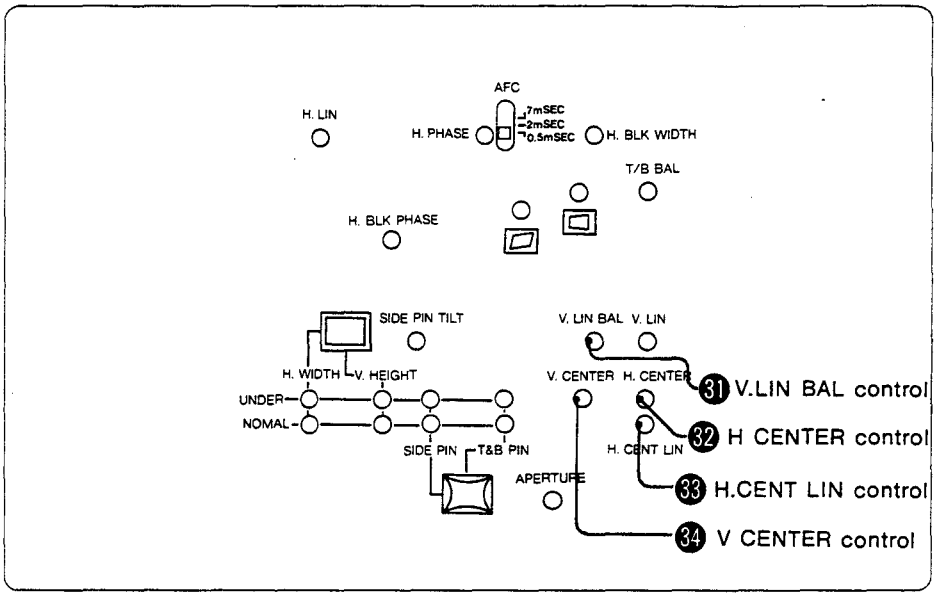


㉙ **▱ (parallelogram distortion) control**
Used to correct the right angled distortion of the deflection yoke.

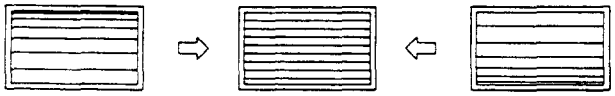


㉚ **V.LIN GAIN (vertical linearity gain) control**
Used to adjust the vertical linearity of the picture.



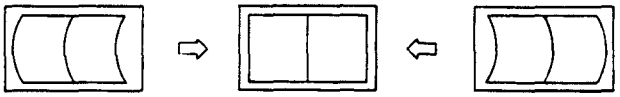



**31 V.LIN BAL (vertical linearity balance) control**
Used to adjust the balance of the vertical (Y axis) linearity of the picture.



**32 H CENTER (horizontal centering) control**
Adjusts the horizontal position of the picture.

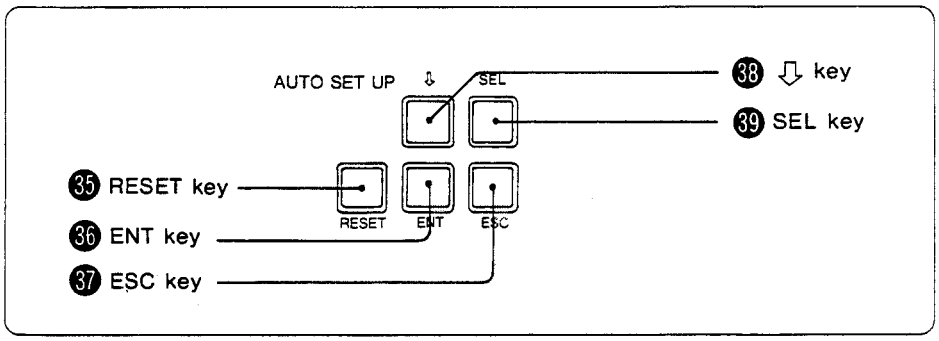
**33 H.CENT LIN (horizontal centering linearity) control**
Used to adjust the horizontal linearity at the center of the picture.



**34 V CENTER (vertical centering) control**
Adjusts the vertical position of the picture.

**HE board** (Auto chroma/phase adjustment, Auto white balance adjustment section)

To activate these keys, the optional BKM-2056 auto set-up adaptor must be installed.




**35 RESET key**

Press to reset the auto set-up operation and return to the initial status. This key is operative even when automatic adjustment is in operation.

**36 ENT (enter) key**

Press to advance to the next step during auto set-up operation and to present next menu choice. This key is also used to start the auto set-up operation.

**37 ESC (escape) key**

Press to return to the previous step during auto set-up operation. This key is not operative while automatic adjustment is in operation.

**38 ⇩ (cursor) key**

For selecting options from menus. Each time this key is pressed, the cursor moves downwards, and then to the top.

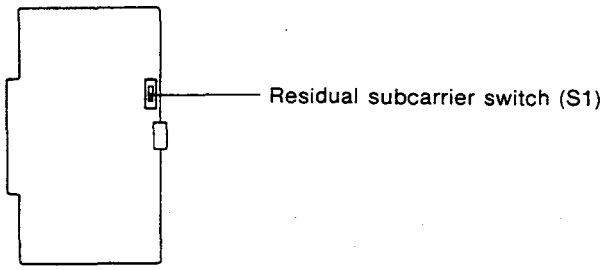
**39 SEL (select) key**

Press to set the monitor to color temperature selection mode. Also used to select the memory position of the probe in color analyzer mode.

# 1-3-4. Switches inside the Cabinet

Remove the cabinet, referring to Section 2.

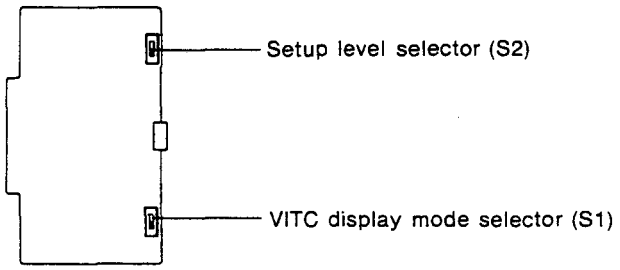
**BJ board**




**Residual subcarrier switch (S1)**

This switch is factory-preset to the lower position (OFF).
Normally there will be no residual subcarrier in input video signals. However, if a residual subcarrier is present, this may affect the display.
Set this switch to the upper position (ON) to check if a residual subcarrier is present. If it is present in the incoming signal, color shift appears in the picture.

**BH board**




**Setup level selector (S2)**

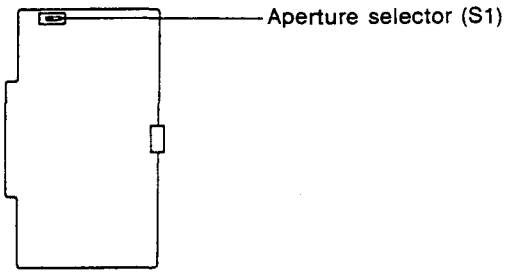
Select the setup level.
**0 IRE:** Setup level is 0%.
**AUTO:** Factory-preset position. Setup level is 0% when the field frequency of the input signal is 50 Hz, and 7.5% when the field frequency is 60 Hz.
**7.5 IRE:** Setup level is 7.5%.

The setup level can be adjusted with the controls on the BH board: 0% level with the RV1 control, and 7.5% level with the RV2 control in the range from −2.5% through +12.5%.

**VITC display mode selector (S1)**

Used to invert the character and background colors.
**Upper position:** Factory-preset position. The VITC is displayed in white characters with black background.
**Lower position:** The VITC is displayed in black characters with white background.
For details, refer to the operation and maintenance manual of the BKM-1460 VITC adaptor.

## BG board

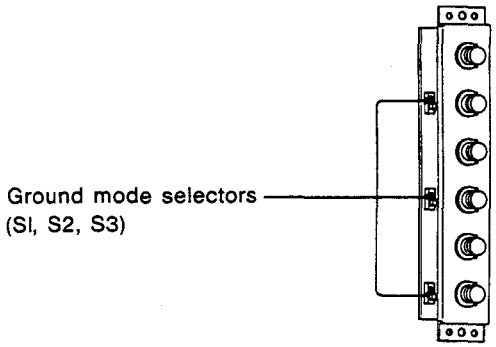



**Aperture selector (S1)**

Selects the boost frequency, 4.5 MHz or 6.5 MHz, for aperture correction. This selector is factory-preset to 4.5 MHz.

## QA and QB boards

The QA and QB boards are located behind the INPUT connector panels. Remove the INPUT connector panels, referring to Section 2.



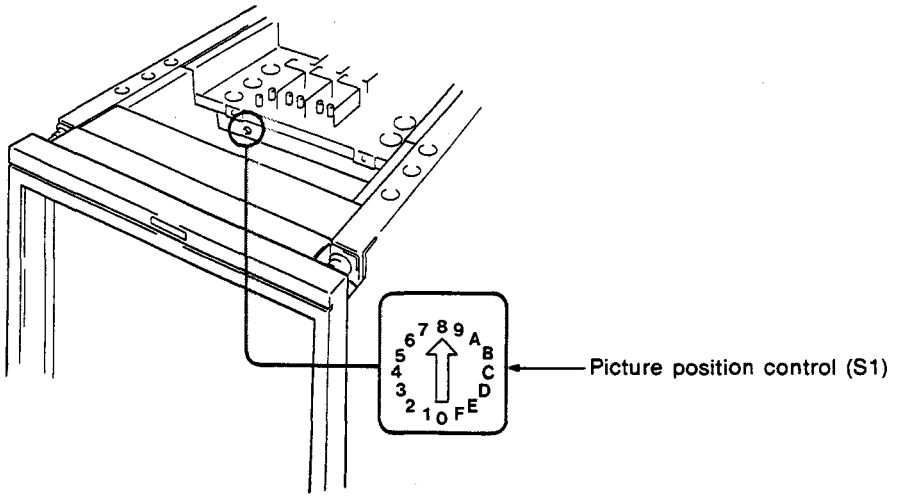

**Ground mode selectors (S1, S2, S3)**

Three selectors are provided for each VIDEO A, VIDEO B and EXT SYNC connectors (QA board), or for each R/R-Y, G/Y/TEST and B/B-Y connectors (QB board).

**S (non-floating):** Factory-preset position. Normally keep the selectors at this position.

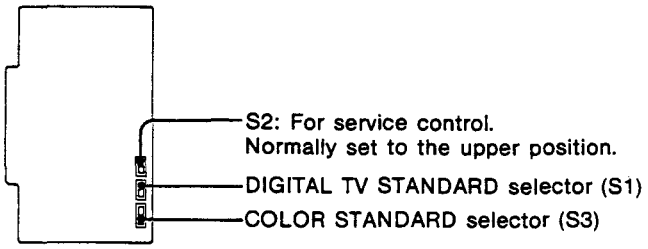
**F (floating):** When there is hum in the input signal, set to this position. Common mode noises will be rejected.

## QD board (Only for the BVM-2010PD/PMD)




**Picture position control (S1)**
Leave this dial set to position 8.
Only qualified service personnel should change its position.

## BR board (Only for the BVM-2010PD/PMD)



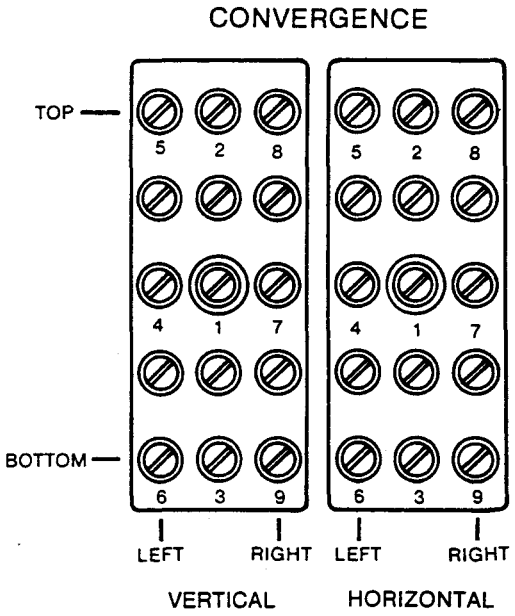

**DIGITAL TV STANDARD selector (S1)**
Depending on the TV standard of the input digital video signal, select the position.
**Upper position (525):** 525/60 line standard system
**Lower position (625):** 625/50 line standard system

**COLOR STANDARD selector (S3)**
Select the COLOR STANDARD button (inside the drawer) to be used for monitoring the digital video signal by setting the selector to the upper position (NTSC), middle position (PAL) or lower position (SECAM).
The selector is factory preset to the lower position (SECAM). To monitor the SECAM standard video signal, set the selector to the upper or middle position. If either of these two are chosen, put the label DIGITAL on the PAL or NTSC button of the COLOR STANDARD buttons.

# 1-4. CONVERGENCE ADJUSTMENT

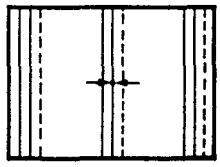
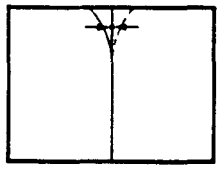
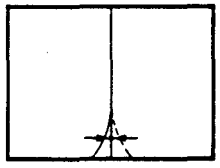
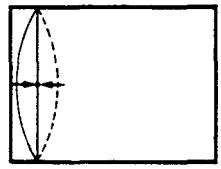
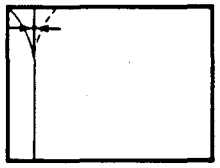
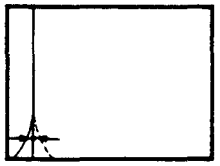
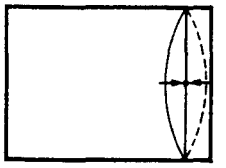
## 1-4-1. Convergence Adjustment of Normal Picture

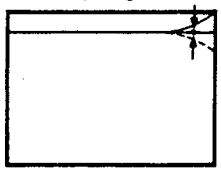
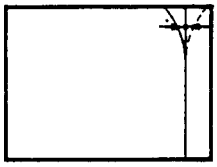
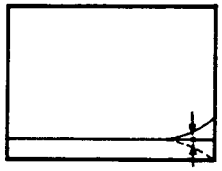
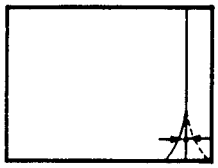
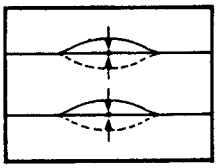
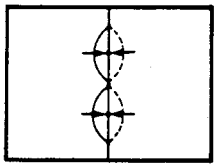
Use the CONVERGENCE controls inside the drawer.




- Numbers 1 to 9 in the illustration above refer to the sequence of operations.
- The HORIZONTAL controls adjust the convergence horizontally, and the VERTICAL controls adjust the convergence vertically.
- When adjusting the convergence, observe the portion of the screen indicated by the ¦ or –·– mark in the illustrations. The red and blue beams move symmetrically to the green beam.

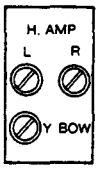
Adjust the convergence of corresponding portion of the screen as follows:

| | VERTICAL | HORIZONTAL |
|---|---|---|
| 1 | At center |  |
| 2 | At center top |  |
| 3 | At center bottom |  |
| 4 | At left center |  |
| 5 | At top left |  |
| 6 | At bottom left |  |
| 7 | At right center |  |

| VERTICAL | HORIZONTAL |
|---|---|
| **8** At top right  |  |
| **9** At bottom right  |  |
| **10** Adjust the convergence between the center and top and between the center and bottom on the screen as required.  |  |

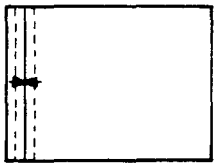
# 1-4-2. Convergence Adjustment of Underscanned Picture

Adjust the convergence of the underscanned picture after convergence adjustment of the normal picture is completed.

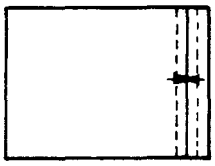



**1** Adjust the horizontal convergence with the UND.SCAN H.AMP control.

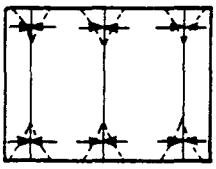
L (left)



R (right)

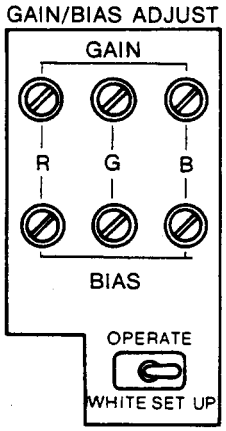


**2** Adjust the horizontal convergence at the four corners of the picture with the UND.SCAN Y BOW control.



# 1-5. WHITE BALANCE ADJUSTMENT

Use the WHITE/OPERATE/SET UP selector and GAIN/BIAS ADJUST controls inside the drawer.
During adjustment, turn the red, green and blue beams on and off with the SCREEN switches on the front panel, as required.




1. Display a test signal on the screen.
2. Set the WHITE/OPERATE/SET UP selector to SET UP.
3. Adjust the white balance at the lowlight with the BIAS controls.
4. Set the WHITE/OPERATE/SET UP selector to WHITE.
5. Adjust the white balance at the highlight with the GAIN controls.
6. After adjustment, set the WHITE/OPERATE/SET UP selector to OPERATE.

**Note**

For white balance adjustment using a color analyzer or equivalent, see Section 2.

# 1-6. SPECIFICATIONS



**Common to the BVM-2010P/PM/PD/PMD**

| | |
|---|---|
| System | **BVM-2010P/PD**<br>625 lines per picture, 50 fields per second interlaced, PAL<br>**BVM-2010PM/PMD**<br>525 lines per picture, 60 fields per second interlaced, PAL-M |
| CRT | Super Fine Pitch Trinitron 0.3 mm aperture grille, 90-degree deflection, $\phi$36 mm in-line gun<br>Effective picture size:<br>291 × 384 mm (h/w) (11½ × 15⅛ inches)<br>482 mm (19 inch) picture measured diagonally |

**Input**

| | |
|---|---|
| Connectors | BNC type (12) |
| Video | VIDEO A/B, TEST, R/G/B<br>0.7 Vp-p, non-composite or 1 Vp-p, composite, video signal ±6 dB positive, high impedance, with loop-through output<br>Y/R-Y/B-Y<br>Y: Composite, 1.0 Vp-p ±6 dB, high impedance, loop-through<br>R-Y/B-Y: 0.7 Vp-p ±6 dB, high impedance, loop-through |
| Sync | EXT SYNC<br>1 — 8 Vp-p negative, high impedance, with loop-through output |
| Return loss | More than 46 dB (7 MHz with 75-ohm termination) |
| Hum rejection | Reduced by more than 50 dB<br>Maximum hum: Less than 4 Vrms, where hum is applied to the monitor in floating ground mode |

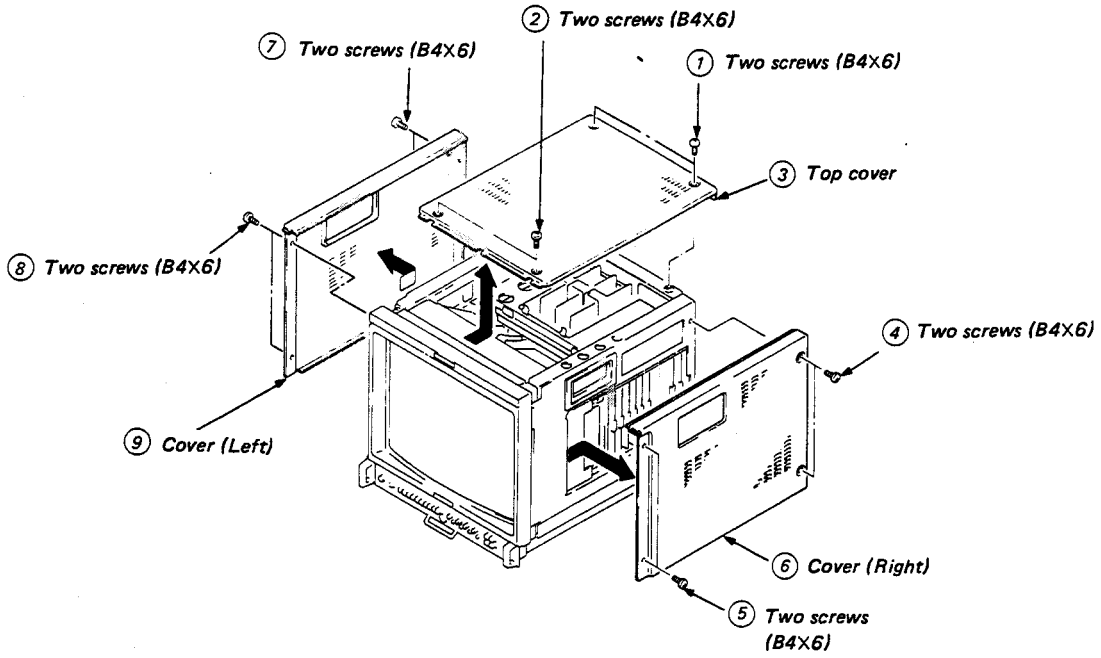
**Output**

| | |
|---|---|
| Connectors | VECTOR OUT: BNC type (2)<br>DECODER OUT: BNC type (3) (output decoded signals only when BKM-1440 is installed.)<br>REMOTE: 10-pin connector (1) |

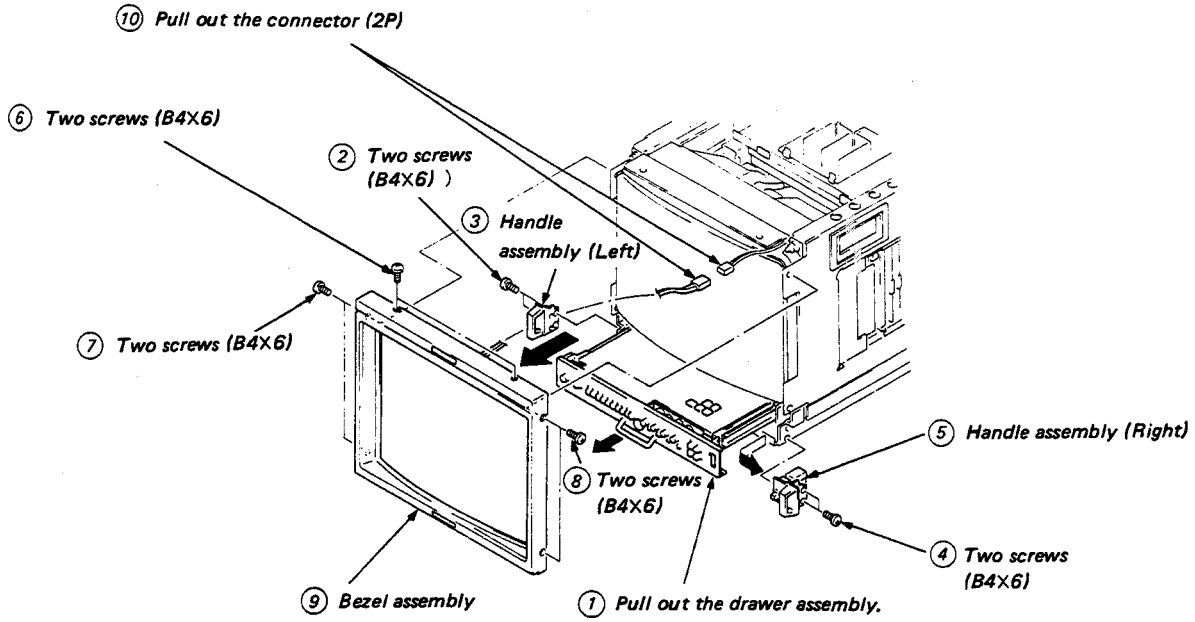
* The input level of a component signal conforms to the EBU "N-10" standard. (Only for the BVM-2010P/PD)

# SECTION 2
# DISASSEMBLY

## 2-1. COVER REMOVAL



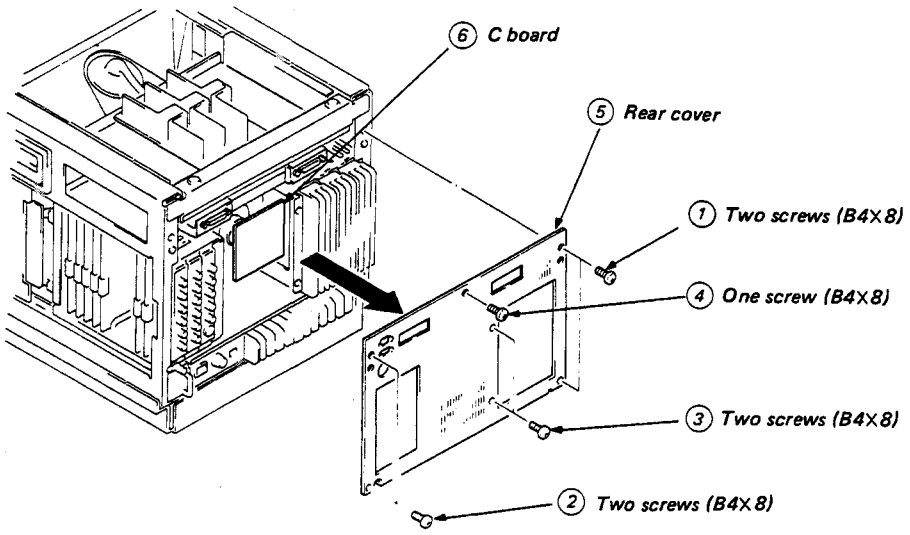

## 2-2. BEZEL ASSEMBLY REMOVAL



## 2-3. CHECK OF C BOARD

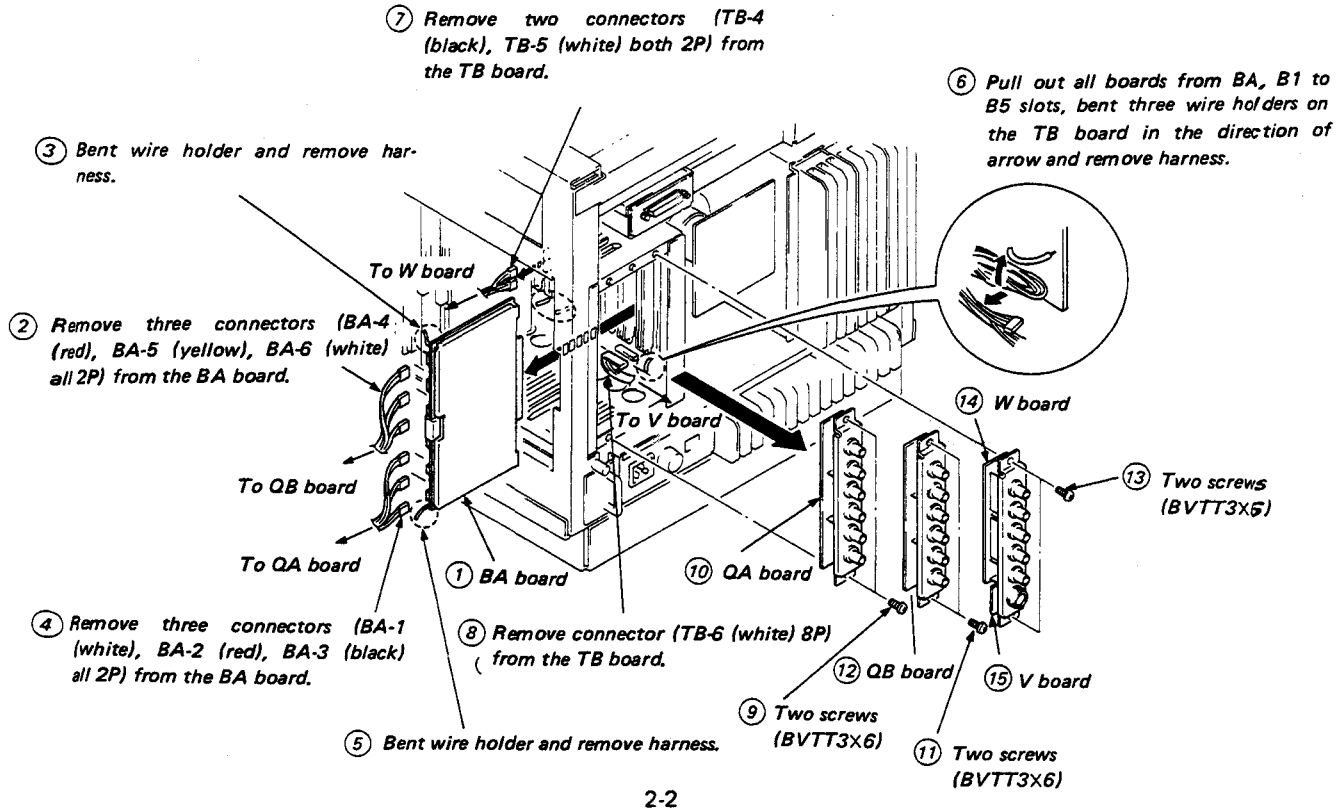
**Note:** Do it after removing cover (Right, Left).
*(Refer to 2-1. COVER REMOVAL)*

**Note:** The illustration shows the BVM-2010PD/PMD. The BVM-2010P/PM can be check of C board in the same way.



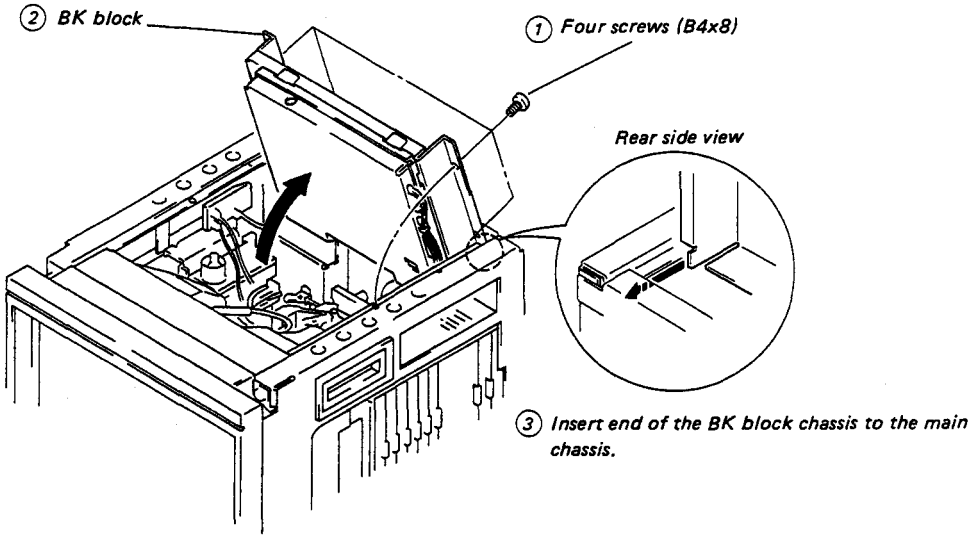

## 2-4. QA, QB, W AND V BOARDS REMOVAL

**Note:** Do it after removing rear cover. (Refer to 2-3. CHECK OF C BOARD)



## 2-5. OPEN THE BK BLOCK

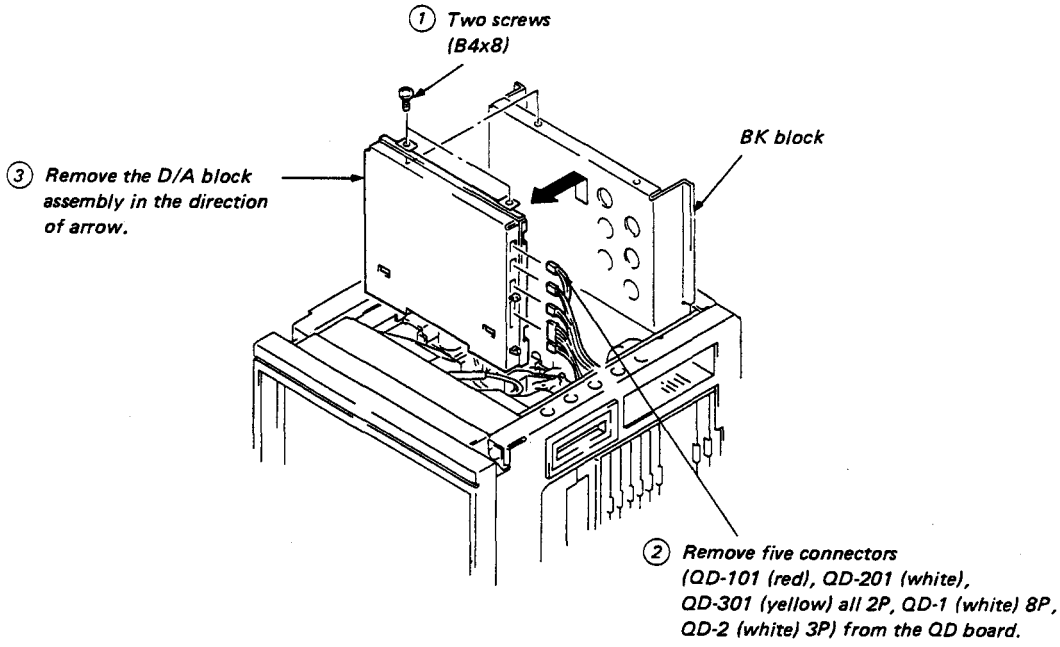
**Note:** The illustration shows the BVM-2010PD/PMD. The BVM-2010P/PM can be opened in the same way.



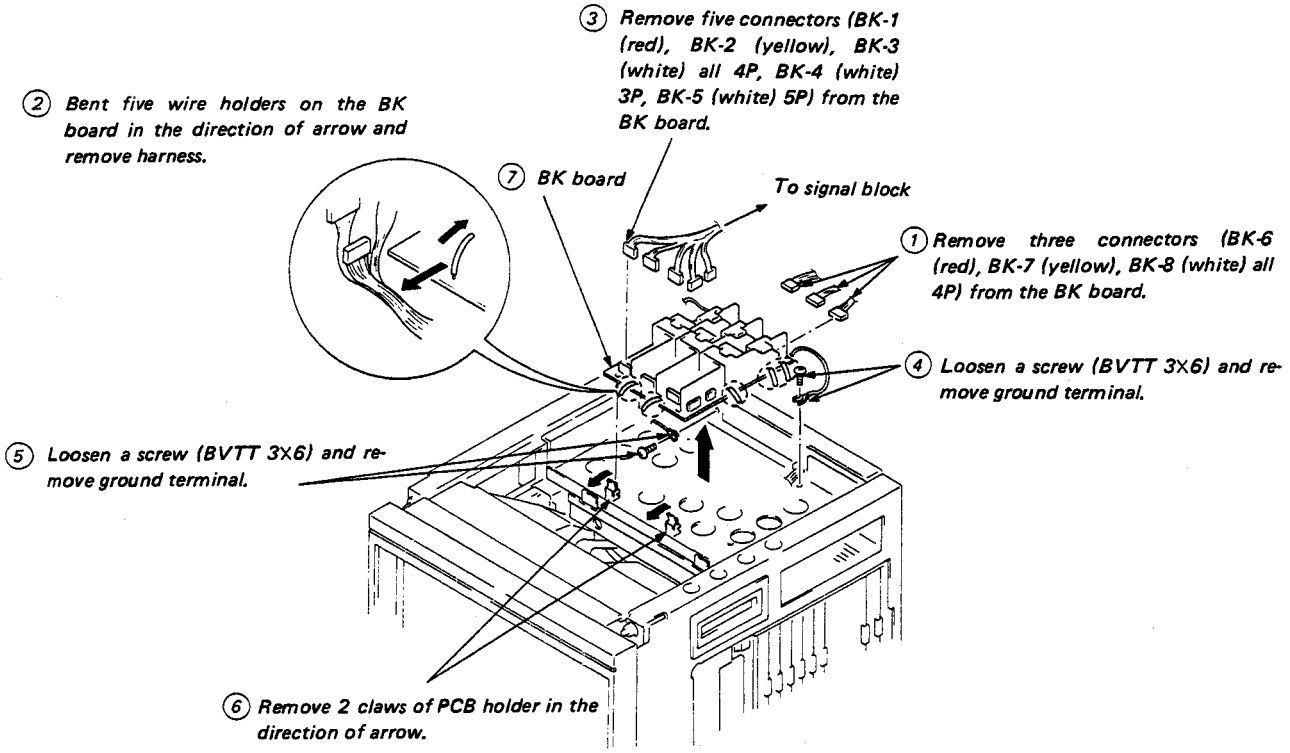

## 2-6. D/A BLOCK ASSEMBLY REMOVAL (BVM-2010PD/PMD ONLY)

**Note:** Do it after opening BK block.
*(Refer to 2-5. OPEN THE BK BLOCK)*

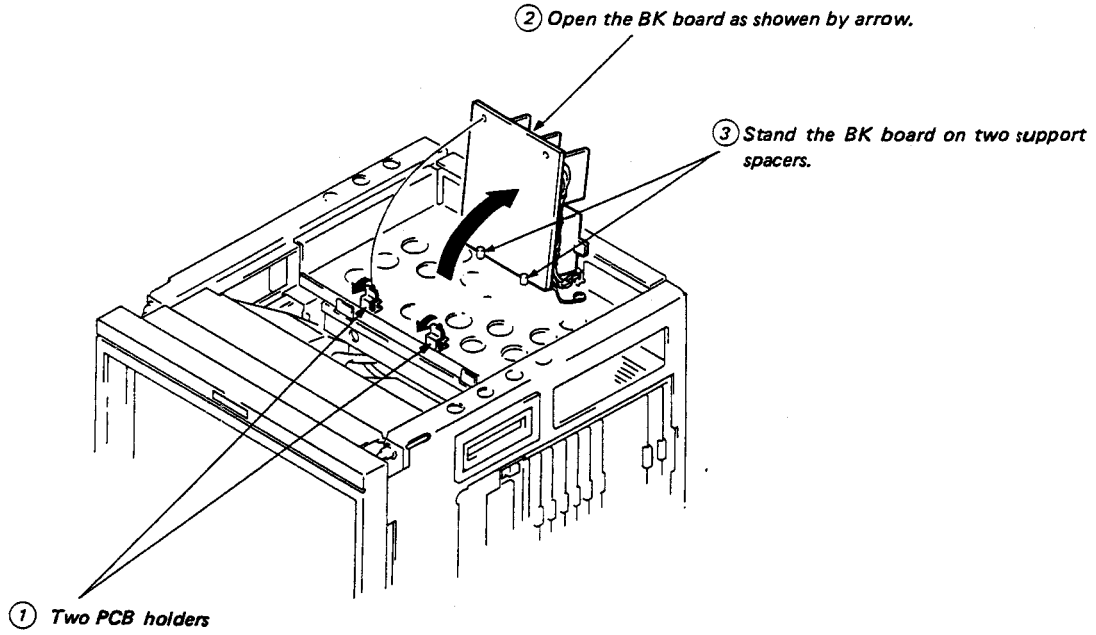
**Note:** The D/A block assembly is supplied only with the BVM-2010PD/PMD.



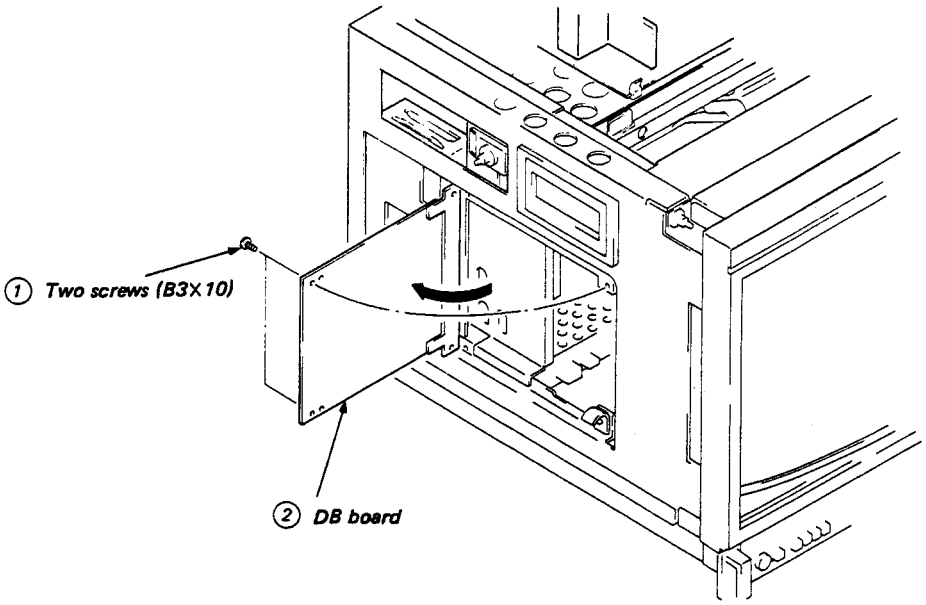
## 2-7. BK BOARD REMOVAL




## 2-8. CHECK OF BK BOARD

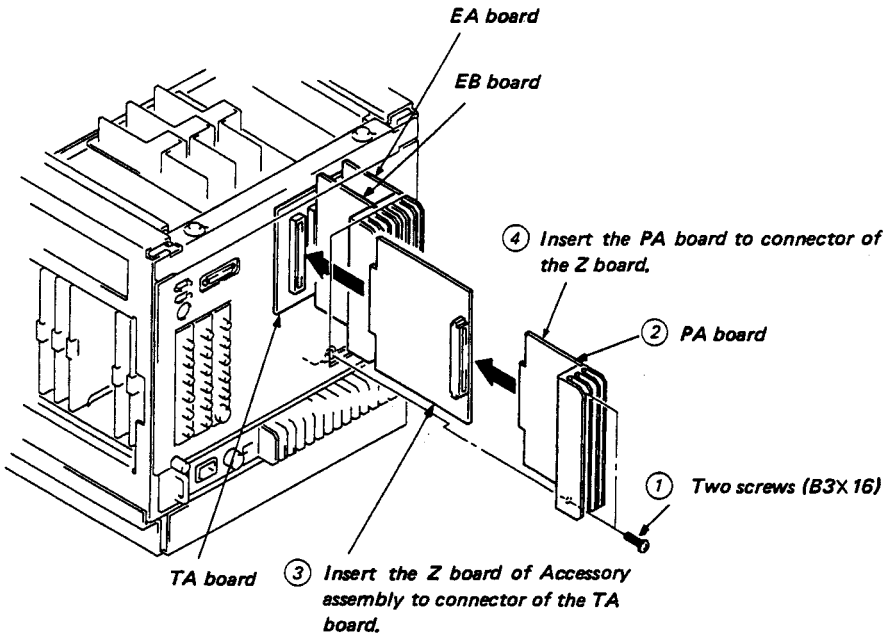


## 2-9. CHECK OF DB BOARD




## 2-10. CHECK OF PA BOARD

**Note:** EA and EB boards can be checked similarly.

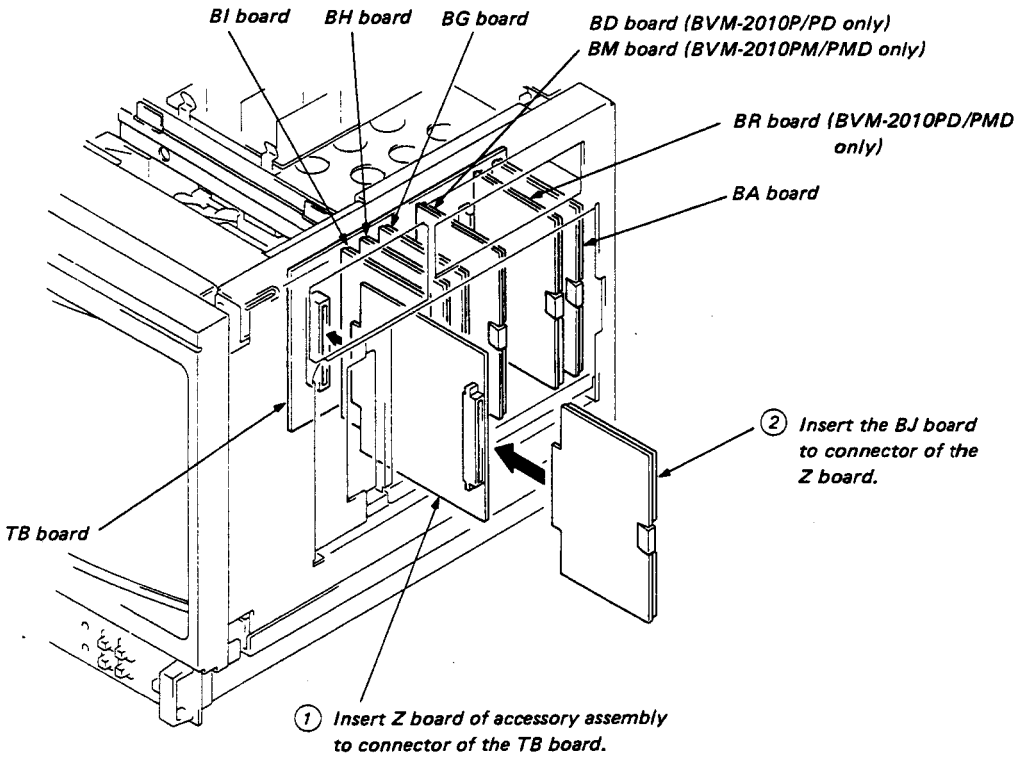


## 2-11. CHECK OF BJ BOARD

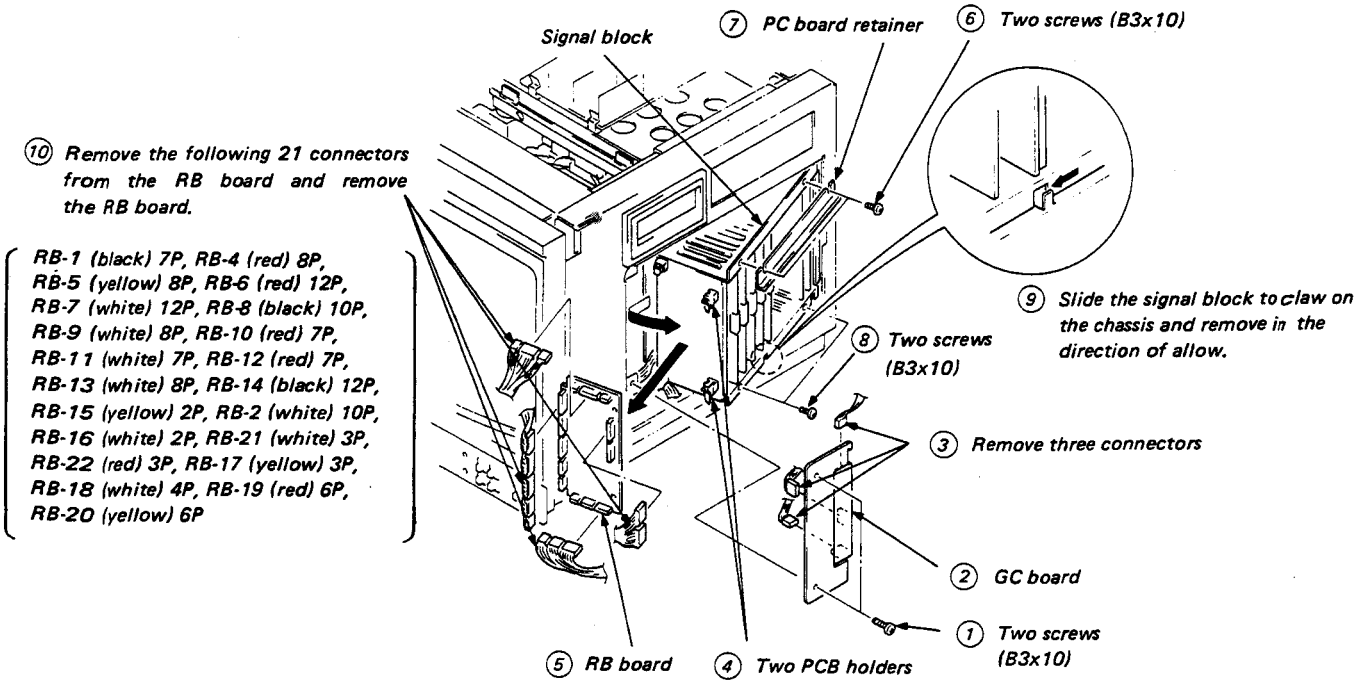
**Note:** PC board retainer is attach as anti-ditach jig for the board. Remove the PC board retainer before checking.

**Note:** BA, BD, BM, BG, BH, BI and BR boards can be cheacked similarly.

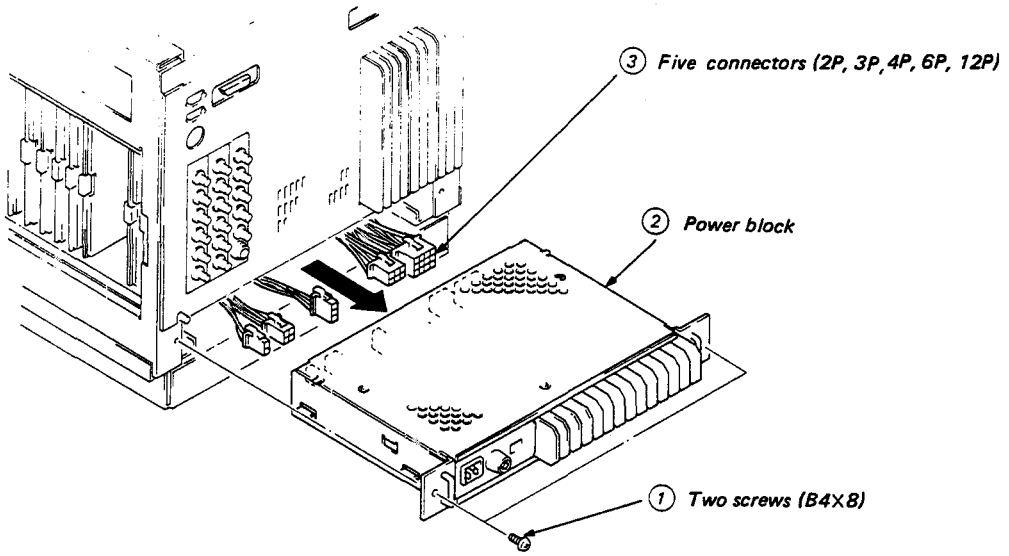
**Note:** The BR wiring board is supplied only with the BVM-2010PD/PMD.




## 2-12. GC AND RB BOARDS REMOVAL



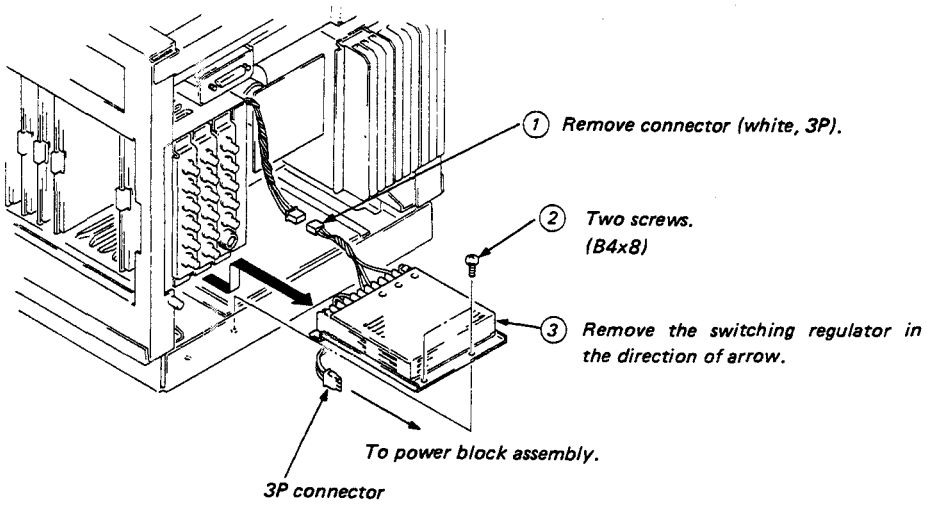
## 2-13. POWER BLOCK ASSEMBLY REMOVAL




## 2-14. SWITCHING REGULATOR REMOVAL (BVM-2010PD/PMD ONLY)

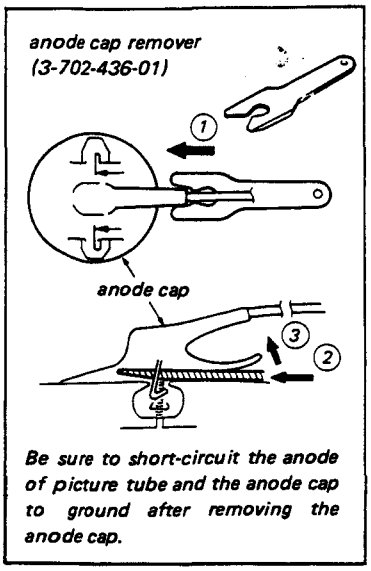
**Note:** Do it after removing rear panel and power block assembly.
*(Refer to 2-3. CHECK OF C BOARD, 2-13. POWER BLOCK ASSEMBLY REMOVAL)*

**Note:** The switching regulator is supplied only with the BVM-2010PD/PMD.

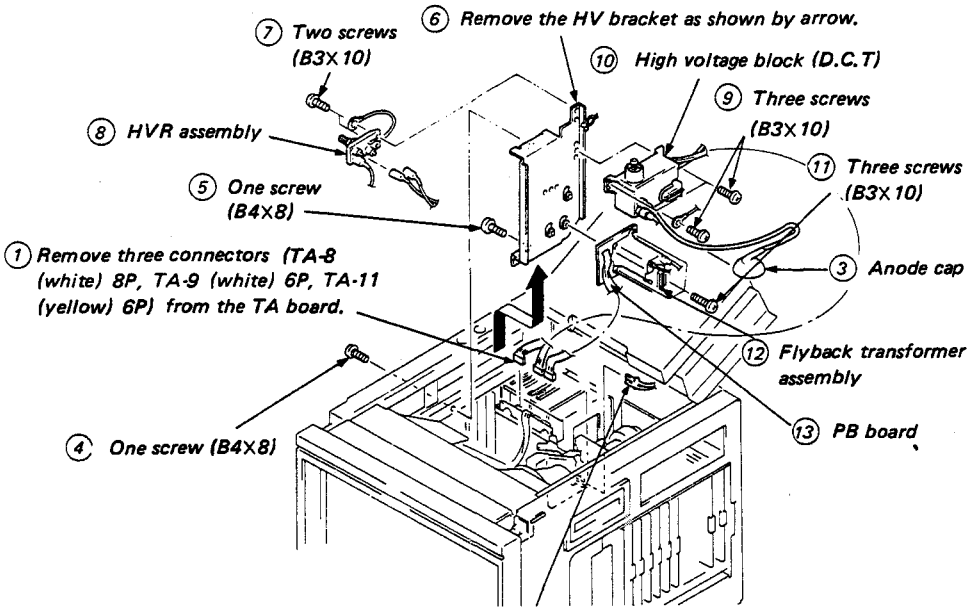


## 2-15. FLYBACK TRANSFORMER AND HIGH VOLTAGE BLOCK REMOVAL

### • REMOVAL OF ANODE CAP

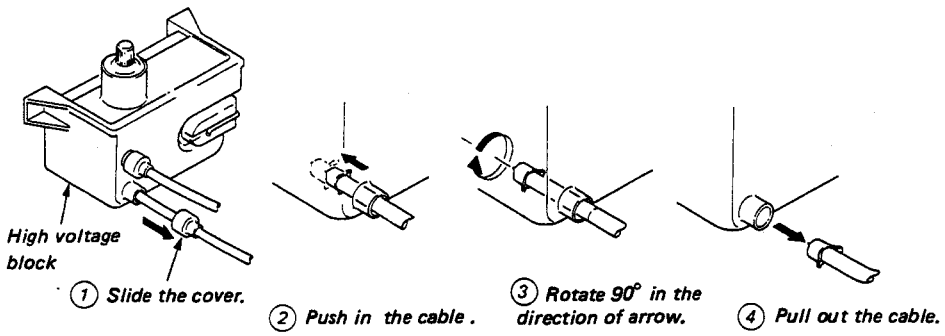



*Be sure to short-circuit the anode of picture tube and the anode cap to ground after removing the anode cap.*




## 2-15-1. REMOVAL AND REPLACEMENT OF HIGH VOLTAGE CABLE

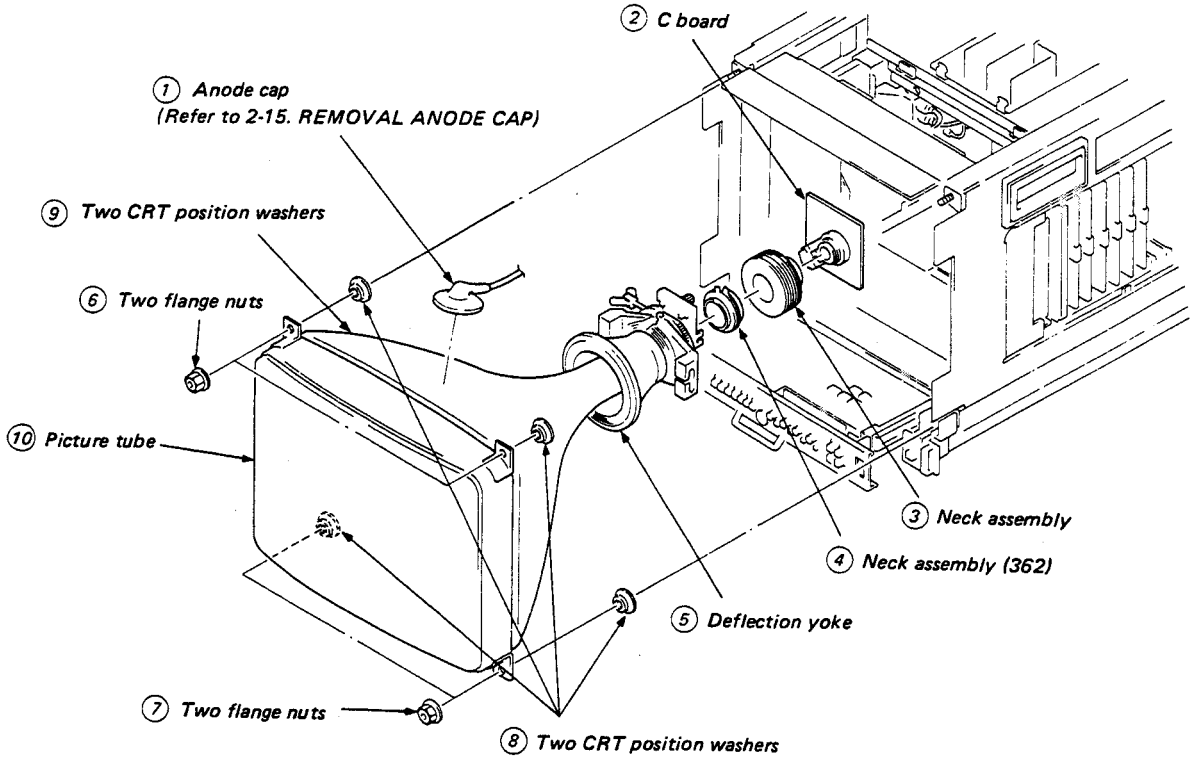
**<Removal>**



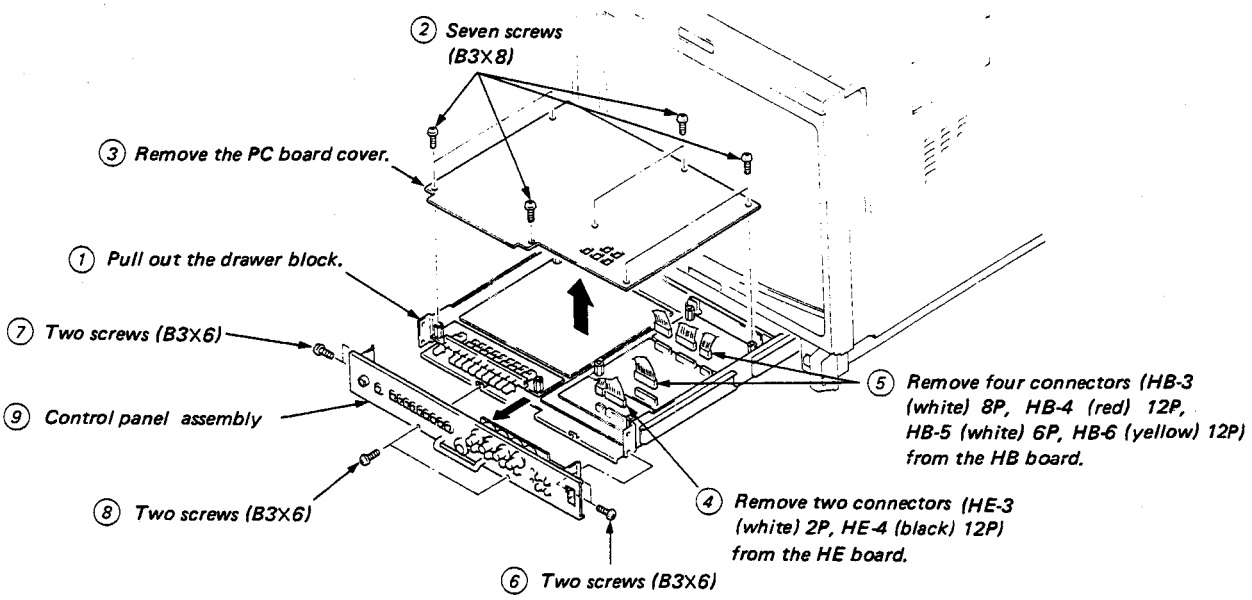

**<Installation>**



## 2-16. PICTURE TUBE REMOVAL




## 2-17. CONTROL PANEL ASSEMBLY REMOVAL



# SECTION 3
# CIRCUIT DESCRIPTIONS

## 3-1. QA, QB, BA BOARDS

### 3-1-1. Input Circuit

**Cable Compensation (QA, QB)**

CABLE COMPENSATION is composed of inductance L and capacitor C1 (Figure 1) in QA board and performs return loss compensation.

Grounding or floating in input terminal can be selected by switch S1.

On floating mode, common mode rejection can be performed.

QB board also has same function.

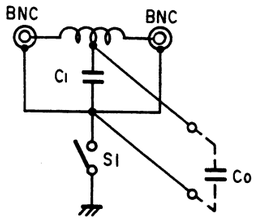



*Figure 1*

**Hook Up Circuit (BA)**

This circuit is composed of transistors Q101-105 and performs common mode rejection when SW S1 is selected to the floating mode.

In Figure 2, Gains of amplifier for input A and B are derived as follows.

$A = \frac{Rc}{Ri}$ : Gain of amplifier for input A

$B = -\frac{Rc}{Ri}$ : Gain of amplifier for input B

When input (ec + ei) is applied to input A and
input (ec – ei) to input B, then output eo is

$eo = \frac{Rc}{Ri}(ec + ei) + (-\frac{Rc}{Ri})(ec - ei) = 2\frac{Rc}{Ri}ei$

This equation indicates that ec is eliminated and there is no common mode signal in output signal.

On hook up circuit, NF Amplifier (Negative Feedback) is used to get frequency response flat.

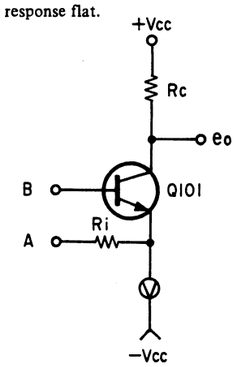



*Figure 2*

**Input Select Sw, Sync Select SW (BA)**

For composite video signal, VIDEO A/B/TEST mode is selected by INPUT SELECT SW (IC1). For sync signal, INT SYNC/EXT SYNC is selected by SYNC SELECT SW IC2.

### 3-1-2. Sync AGC Circuit

This circuit is composed of following components; LPF (Low Pass Filter) (Q701), variable gain amplifier (Q702-Q705), bias control circuit (Q708-Q710), gain control circuit (Q711, 712) and amplifier (Q706, 707), Figure 3 shows block diagram of this circuit.

An inverted composite video signal or composite sync signal (eo) is derived at the collector of transistor Q707.

The bias control circuit compares maximum value of eo with base voltage of Q708 (E1) and controls bias of amplifier so that they match.

Also the gain control circuit compares pedestal level of eo with base voltage of Q711 (E2), and controls variable gain amplifier so that they match.

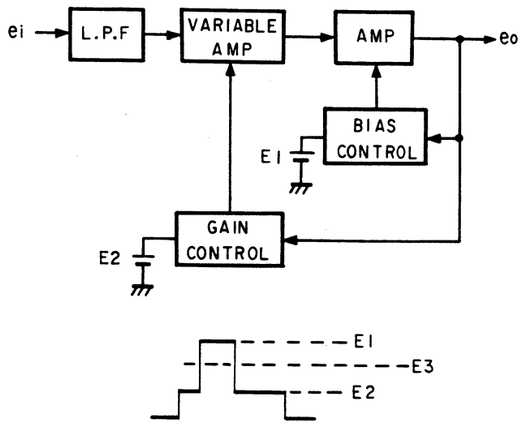



*Figure 3*

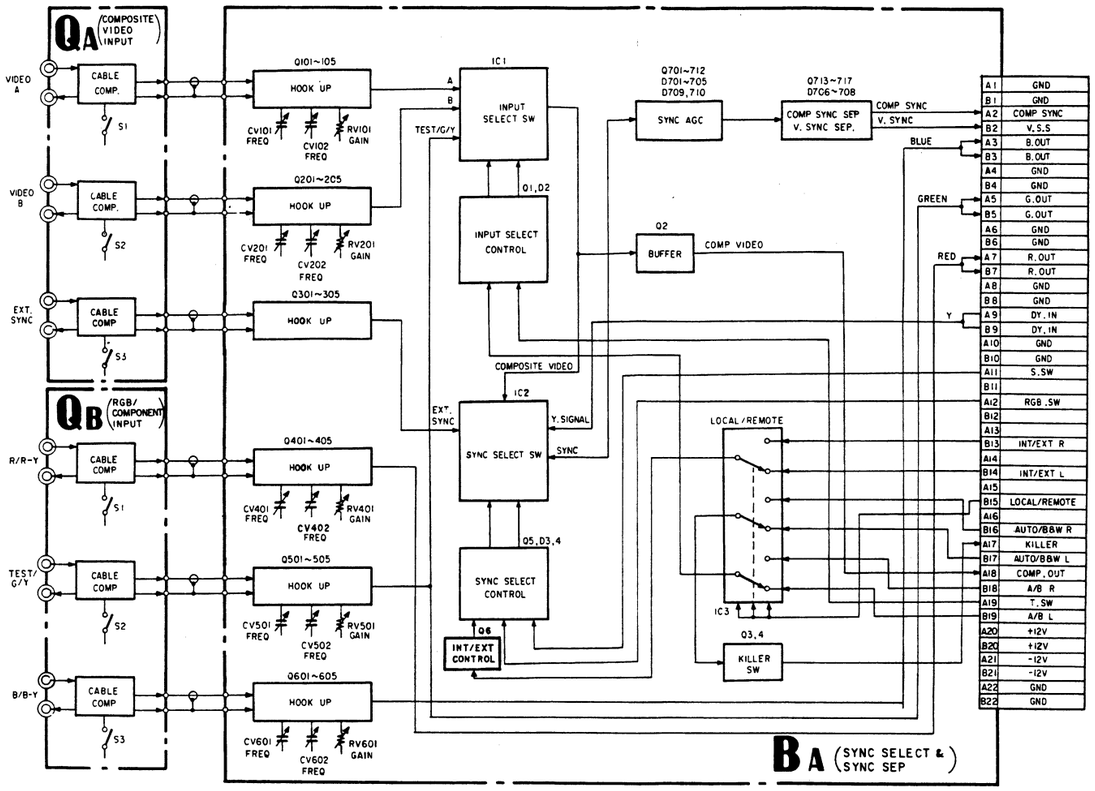
**Composite Sync Separation, Vertical Sync Separation**

Composite sync is separated from composite video signal or composite sync by comparing voltage eo with the base voltage of transistor Q713 (E3).

Horizontal component in composite video signal or composite sync signal is removed by LPF (Low Pass Filter, Q716) and Vertical sync is separated by transistor Q717.



## BLOCK DIAGRAM OF QA, QB, BA BOARDS



## 3-2. BG BOARD

### 3-2-1. Luminance Signal Circuit

**Filter SW**
IC1 works as a selector switch of composite video signal or luminance signal derived from Y/C separation circuit. This IC activates by either FILTER-SW in right side drawer or killer signal.

**Aperture Control**
Aperture control circuit is composed of DL1 (delay line), transistors Q5, 7, 8 and IC2. IC2 operates as a variable resistor. Resistance value between Pin ① and ③ is controlled by the potential between pin ③ and pin ④, also pin ① and pin ⑥.

Input signal: $e_{T0}$,
Delayed signal by delay line: $e_{T1}$
Second delayed signal: $e_{T2}$

See Figure 4
$e_1$ (at base of transistor Q5) is obtained as below due to the combination of direct wave and reflected wave by DL1.

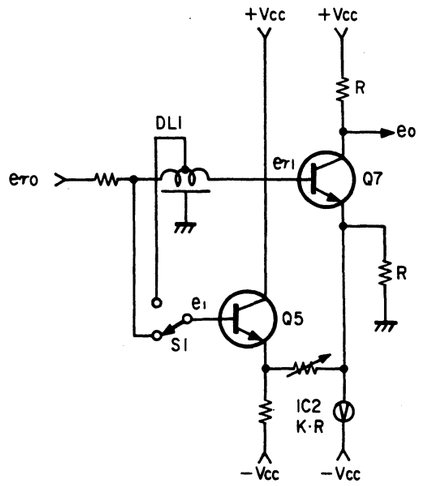



*Figure 4*

$e_1 = (e_{T0} + e_{T2})/2$

Therefore eo is

$$e_o = -\underbrace{(e_{T1} + \frac{1}{K}}_{\text{1st term}}\underbrace{(e_{T1} - \frac{1}{2}(e_{T0} + e_{T2}))}_{\text{2nd term}})$$

K: variable constant

In the above equation, 1st term shows waveform A in Figure 5 and 2nd term shows waveform B. When K is variable, amount of preshoot and overshoot can be varied.
Switch S1 is used for selection of boost frequency.

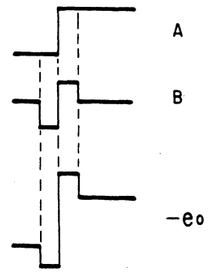



*Figure 5*

**Y Delay, Y Buffer Amplifier**
Y/C delay time can be matched by delay line DL2 and Y signal is amplified and fed to the next stage.

### 3-2-2. Color Gain Control Circuit

In this section (R-Y) signal processing is described as below, but (B-Y) signal is processed by the same way as (R-Y) signal.

**R-Y Amplifier and Clamping**
The R-Y color difference signal from the decoder board is amplified at the amplifier composed of transistors Q21 and Q22 and clamped at the Horizontal Sync by transistors Q23, Q24 and IC3.

**R-Y Gain Control Amplifier**
This is a variable gain control amplifier composed of variable resistor element of IC4 and transistors Q25-Q27. Gain of this amplifier can be controlled by the color gain control voltage at the pin ⑫ of IC4.

**AGC Pulse Generator**
Generates the reference pulse for AGC (Automatic Gain Control) of color gain control circuit.

**Gain Control Amplifier for AGC Pulse**
Circuit is the same as R-Y GAIN CONTROL AMPLIFIER. Gain of this amplifier is controlled by the voltage at pin ⑧ of IC4.

**Color Gain Control**
AGC pulse, which is output signal of Gain control amplifier for AGC pulse, is clamped by IC6 (2/3) and is made sampling by IC6 (3/3). Amplitude of AGC pulse and DC voltage supplied from CHROMA control on the front panel are compared and mached by IC7 (1/2) with controlling the above gain control amplifier.
This control voltage is supplied to the control terminals of R-Y and B-Y gain control amplifiers and controls color gain.

### 3-2-3. G-Y MATRIX amplifier

G-Y signal is obtained by matrixing R-Y signal and B-Y signal with the amplifier composed of transistors Q44 and Q45.

### 3-2-4. NTSC MATRIX SW

NTSC MATRIX mode operation is obtained by the matrix circuit composed of resistor networks CP14-CP19, transistor Q29, Q30, Q39, Q40, Q49, Q50 and IC5. CP14-CP19 perform matrixing and IC5 works as a switch.



### 3-2-5. Vector Output Circuit

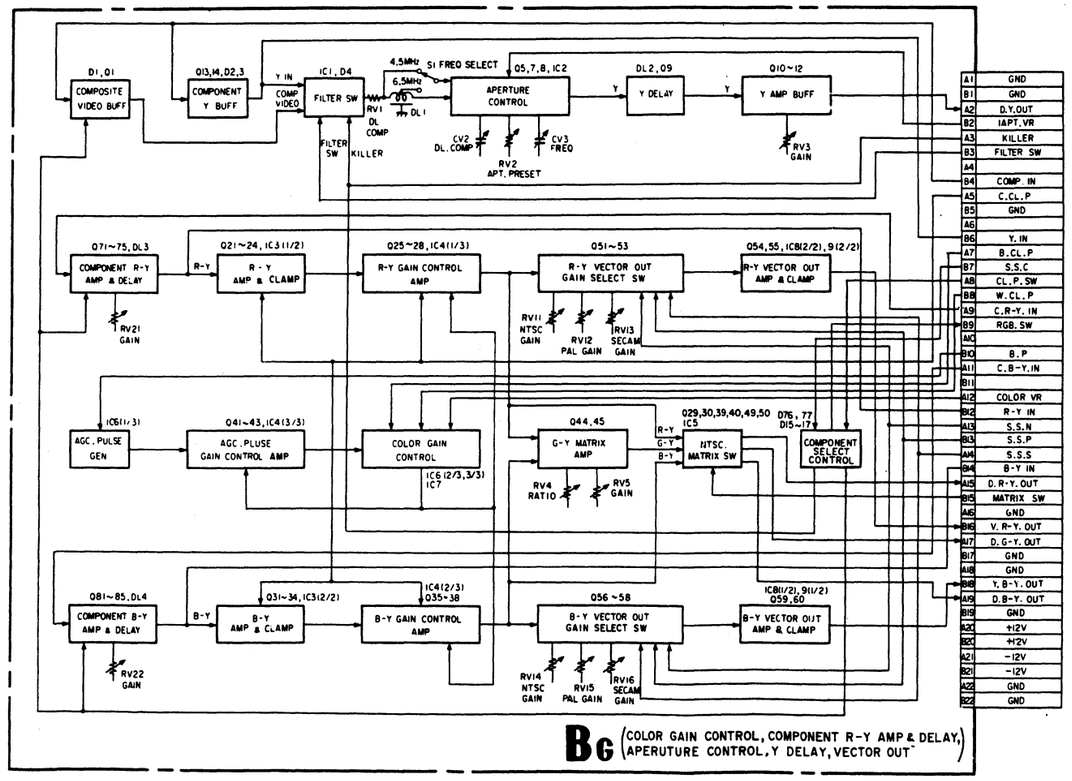
**R-Y Vector Output Gain Switcher**
Vector output levels are compensated for each color standards, NTSC, PAL and SECAM.

**R-Y Vector Output Amplifier and Clamping**
Vector output signal is amplified by IC9 (2/2) and transistor Q54 and clamped by IC8 and transistor Q55 for the suitable operation.

### 3-2-6. COMPONENT R-Y Amplifier and Delay Circuit

R-Y signal of COMPONENT signal is compensated with amplitude, porality and delay time to match the R-Y signal of decoder output.

## BLOCK DIAGRAM OF BG BOARD



## 3-3. BH BOARD

### 3-3-1. Switching Circuit Between Y (Luminance) Signal, Color Difference Signal and RGB Signal, AGC Pulse Insertion, Y-C Matrix

**Switching Circuit of Y Signal, Crosshatch Signal and SET UP Signal, Buffer**

Y signal, crosshatch signal and SET UP signal are selected by the switcher (IC1 (1/3) (2/3)) and selected signal is output via buffer Q1.

**Switching Circuit of R-Y Signal, Red Signal and SET UP Signal (Same as B-Y, G-Y Signal)**

R-Y signal, Red signal, SET UP signal are selected by IC2 (1/3, 2/3) and selected signal is output via buffer Q4.

**Y Signal Screening (Same as R-Y, B-Y, and G-Y Signals)**

The signal is performed SAMPLE and HOLD (S/H) at the back porch of signal by transistor Q2 and IC5 (2/2). Y screening is performed by replacing S/H output signal, by the original signal.

For color difference signals screening is made at the Horizontal Sync portion.

**Red Matrix, Blue Only SW, Buffer (Same as Green and Blue)**

Red is obtained by Y-C matrix circuit composed of resistor network CP9 from color difference signals.

AGC pulse from pulse generator is inserted into Red signal for contrast control.

IC7 activates by the Blue only SW on the front panel. Blue only SW is used for the display of blue signal as a monochrome picture.

### 3-3-2. Contrast Control, Brightness Control, Peak Limitter

**Red Contrast, and Brightness Control Amplifier (Same as Green and Blue)**

This is a variable gain control amplifier composed of variable resistor element IC101 and transistor Q102 and Q103. By controlling the voltage at pin ④ of IC101, contrast control is performed, and brightness control is done by controlling the bias voltage of transistor Q102.

**Red limitter (Same as Green and Blue)**

When excess input signal comes in , amplitude is limitted by the limitter composed of transistors Q104 and Q105.

**Red Contrast Control**

AGC pulse inserted in Red signal is clamped by transistor Q107 and sampled by transistor Q108.

Amplitude of above AGC pulse is compared with the reference voltage applied from CONTRAST control on the front panel in IC102 (2/2).

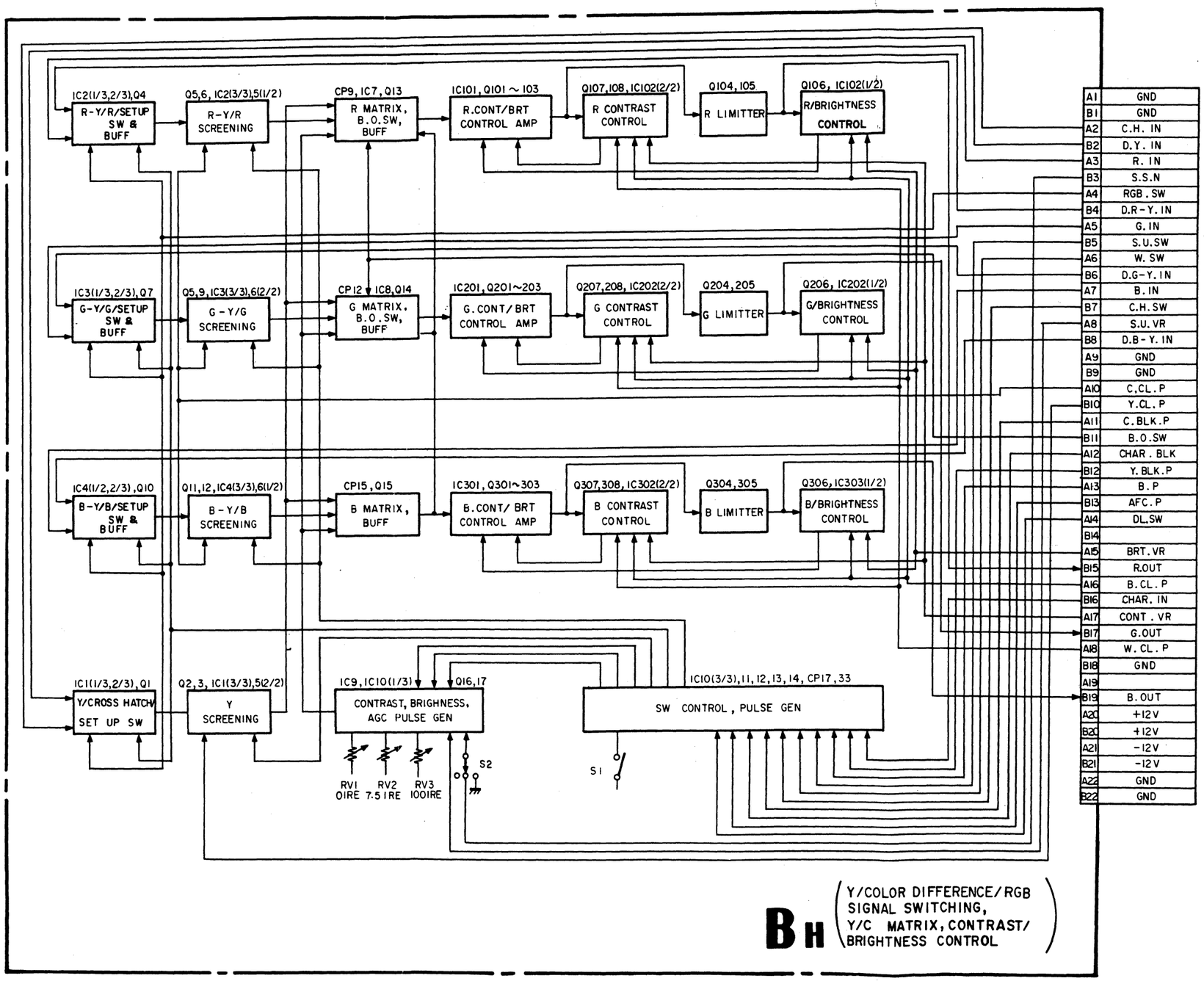
Contrast control is performed by controlling the gain of Red contrast brightness control amplifier so that these voltages may match.

**Red Brightness Control (Same as Green and Blue)**

The black level of Red signal is performed SAMPLE and HOLD (S/H) by transistor Q106. This S/H voltage is compared with the reference voltage applied from Brightness control on the front panel in IC102 (1/2). Brightness control is performed by controlling the bias of Red contrast Brightness control amplifier so that these voltages may match.



## BLOCK DIAGRAM OF BH BOARD



## 3-4. BI BOARD

### 3-4-1. Red Screen SW,AGC Pulse Insertion (Same as Green and Blue)

Red signal can be cut off by RED SCREEN SW on the front panel. Horizontal rate AGC pulse is removed and the reference pulse is inserted in the signal for the GAIN and BIAS adjustment of video output amplifier and for the beam control circuit.

### 3-4-2. Red Limitter, Gain Bias Control Amplifier

This limitter is used for limiting the excess input level of the signal below 0V DC.

The GAIN/BIAS CONTROL amplifier is composed of variable resistor element and transistors as same as contrast control amplifier' (See section of BH board)

### 3-4-3. Red Feedback Amplifier, Red Gain Control Red Bias Control Circuit

RED FEEDBACK amplifier inverts the phase of the signal derived from VIDEO OUTPUT amplifier via NF BUFF (Negative Feedback Buffer) in BK board.

The BIAS of VIDEO OUTPUT AMPLIFIER is controlled by RED BIAS CONTROL circuit so that the black level of inverted signal may be 0V DC.

(This time, black level of VIDEO OUTPUT will be −90V DC.)

RED GAIN CONTROL circuit controls the gain of VIDEO OUTPUT AMPLIFIER so that the level of the reference pulse may match to the voltage at pin (3) of IC103.

(When GAIN control (RED) in the drawer is turned, the level of the reference pulse inserted in section 1 changes. And amplitude (Gain) of Red signal changes so that the amplitude of the reference pulse derived from RED FEEDBACK amplifier may be maintained constant by GAIN CONTROL circuit.)

### 3-4-4. Red Cathode Current Detection, Red G1 Control Circuit (I-V Conversion)

Refer to the BK board section of beam control circuit

### 3-4-5. ABL Detector, Drive Control, Over Drive

The reference level of GAIN CONTROL circuit is controlled by ABL detector and DRIVE CONTROL so that the cathode current of CRT exceeds the predetermined (Preset) value to prevent damage of CRT. OVER DRIVE circuit lights up the OVER LOAD LED on the front panel for warning.

### 3-4-6. G2 Control Circuit

Circuit diagram of G2 control circuit is shown in Figure 6.

The signal for G1 BIAS control is fed to base of the transistor Q11 from RED G1 BIAS control circuit. (Same as G and B)

Only one of the highest voltages among the base voltages of transistors Q11-Q13 is turned on and is compared with the reference voltage of base voltage Q14.

And this circuit drives transistor Q105 located in PA board so that Transistor Q105 in PA board drives G2 voltage for adjusting cut off level of CRT.

Base voltage of transistor Q14 (reference voltage) is set so that the voltage of Black level at G1 electrode may be −120V DC and maintain Ekco (cut off voltage) −120V constant.



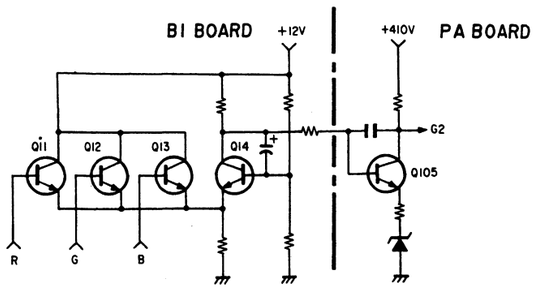
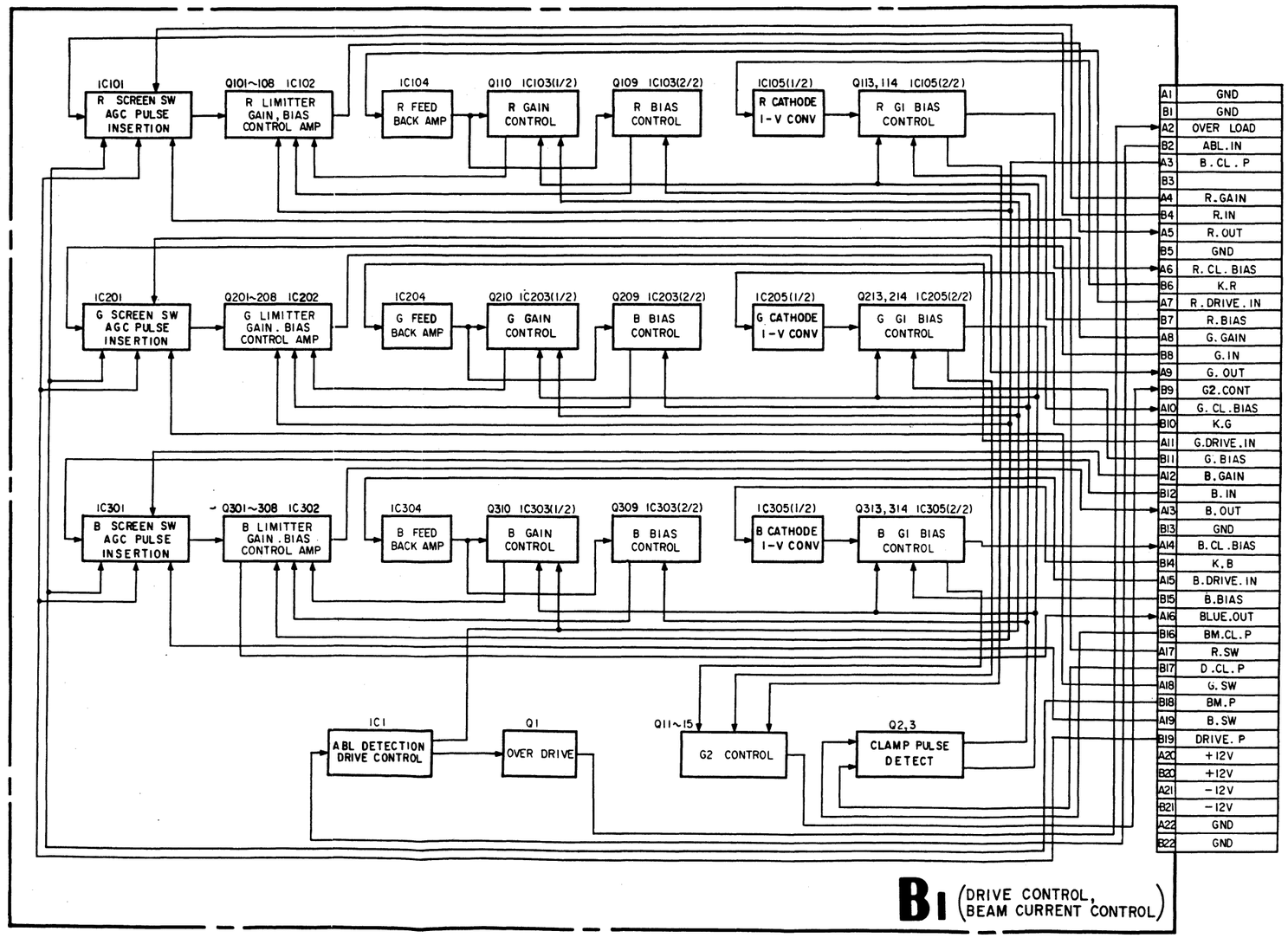



*Figure 6*

**BLOCK DIAGRAM OF BI BOARD**



## 3-5. SYNC PROCESSOR, PULSE GENERATOR (BJ BOARD)

### 3-5-1. 1H Pulse Processing

The composite sync is separated from incoming signal at BA board. And 1H sync is made by separating V sync and equalizing pulse from composite sync.
Also H sync which has constant pulse width is made from 1H sync.

### 3-5-2. 2fH Multivibrator

This circuit generates 2fH rate pulse from H rate flyback pulse.

### 3-5-3. Vertical Counter

The 2fH rate pulse is counted down to generate Vertical rate trigger pulse for vertical deflection circuit.
When there is no incoming signal, trigger pulse is generated by vertical counter (384H).
When there is incoming signal with V sync, this counter circuit is reset by V sync and generates trigger pulse synchronized with V sync.
Also in order to increase stability of vertical scanning, noise gating process is made during V sync period.

### 3-5-4. V Sync and Delay

V sync and V BLANKING pulses are generated by output trigger pulse from vertical counter.
And when V DELAY SW on the front panel is selcted ON, these pulses are generated in a V/2 delayed position relative to the V sync position of incoming signal.

### 3-5-5. Crosshatch Generator

Internal crosshatch signal is made as follows.
The vertical lines are generated by approx. 18fH rate pulses synchronized with flyback pulse.
And flyback pulse is counted down to generate horizontal lines.

### 3-5-6. Burst Gate Pulse, Y-CLAMP Pulse, C-CLAMP Pulse Generator

The Burst Gate Pulse (B.G.P.), clamp pulse for luminance signal (Y.CL.P) and clamp pulse for color difference signal (C.CL.P) are generated from 1H sync via LCR network and transistors.

### 3-5-7. Picture Set Up Pulse Generator

This is the gate pulse generator for picture set-up function, and consists of mono multipliers.

### 3-5-8. Split, Y Blanking, C Blanking Pulse Generator

Y BLANKING pulse (Y BLK P) and C BLANKING pulse (C BLK P) are generated. These pulses are used for the purpose of DC restoration of color difference signal, Y signal and RGB signal. DC restoration is made by inserting the black reference signal during blanking period in the signal. Also C.BLK. pulse is mixed with vertical rate blanking signals for SPLIT display and for B/W display.

### 3-5-9. Horizontal Rate AGC and Clamp Pulse Generator

COLOR GAIN control, CONTRAST control and BRIGHTNESS control are stabilized by insertion of reference signal and using feedback circuit. Horizontal rate BLACK pulse (B.P), BLACK CLAMP pulse (B.CL.P) and WHITE CLAMP pulse (W. CL.P) are generated here.



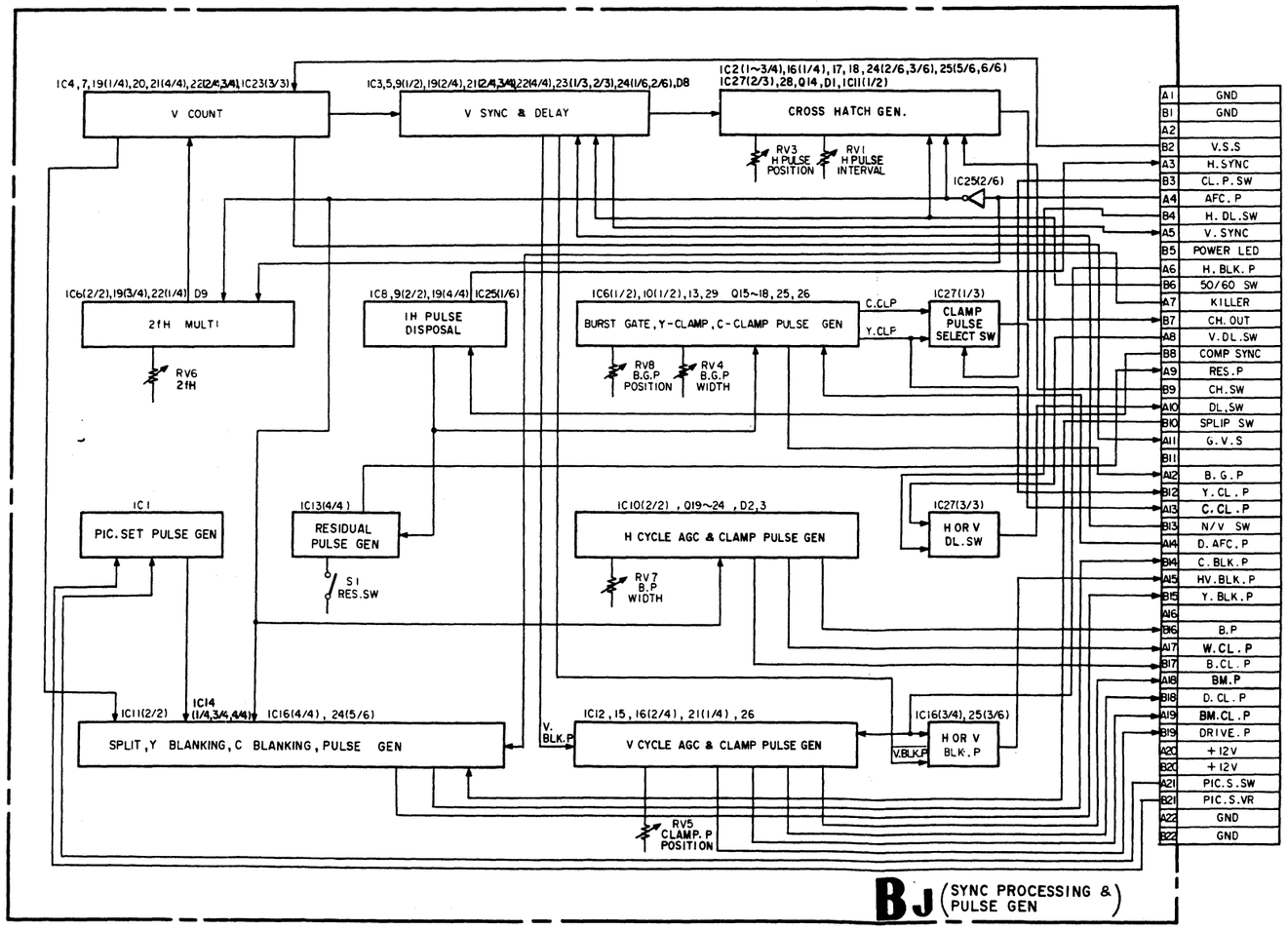
### 3-5-10. Vertical Rate AGC and Clamp Pulse Generator

In this model, BEAM CONTROL circuit is used for high stability in white balance.
The reference signal is inserted in the signal for gain control circuit in video output amplifier and for beam control circuit. Vertical rate pulses are used for this purpose.
Vertical rate BEAM PULSE (BM.P) DRIVE PULSE (DRIVE.P) and BEAM CLAMP PULSE (BM.CL.P) are generated here.

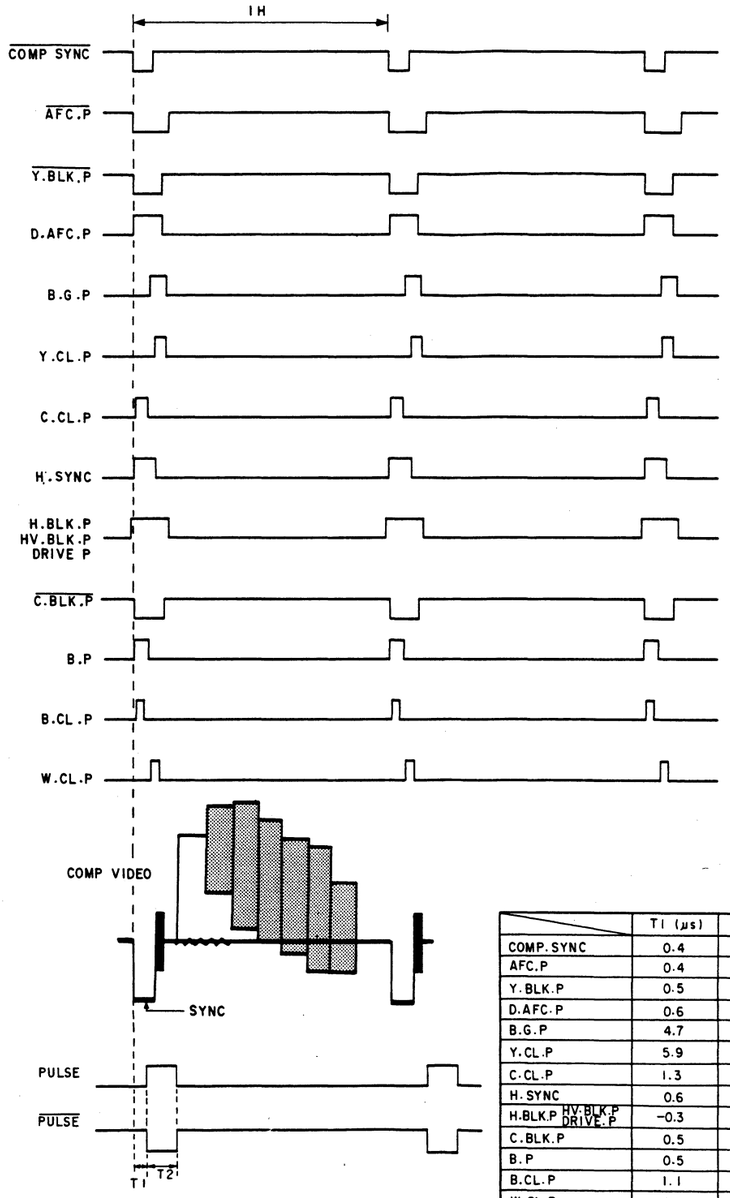
### 3-5-11. Others

Black reference is determined at the position of clamping in black reference insertion circuit for both color difference signal and RGB signal. Accordingly C.CL.P is used as clamp pulse for color difference signal processing and Y.CL.P is for RGB signal. CLAMP PULSE SELECTION SW switches C.CL.P. or Y CL.P to the clamp pulse for the insertion of black reference.

## BLOCK DIAGRAM OF BJ BOARD



## TIMING CHART OF MAJOR PULSE (BJ BOARD)




| | T1 (μs) | T2 (μs) |
|---|---|---|
| COMP. SYNC | 0.4 | 4.8 |
| AFC.P | 0.4 | 9.0 |
| Y.BLK.P | 0.5 | 7.2 |
| D.AFC.P | 0.6 | 7.2 |
| B.G.P | 4.7 | 4.1 |
| Y.CL.P | 5.9 | 2.6 |
| C.CL.P | 1.3 | 3.0 |
| H.SYNC | 0.6 | 5.5 |
| H.BLK.P HV.BLK.P DRIVE.P | −0.3 | 9.0 |
| C.BLK.P | 0.5 | 7.2 |
| B.P | 0.5 | 3.5 |
| B.CL.P | 1.1 | 1.8 |
| W.CL.P | 4.4 | 1.8 |

*Figure 7*



## FIELD 1 VERTICAL BLANKING

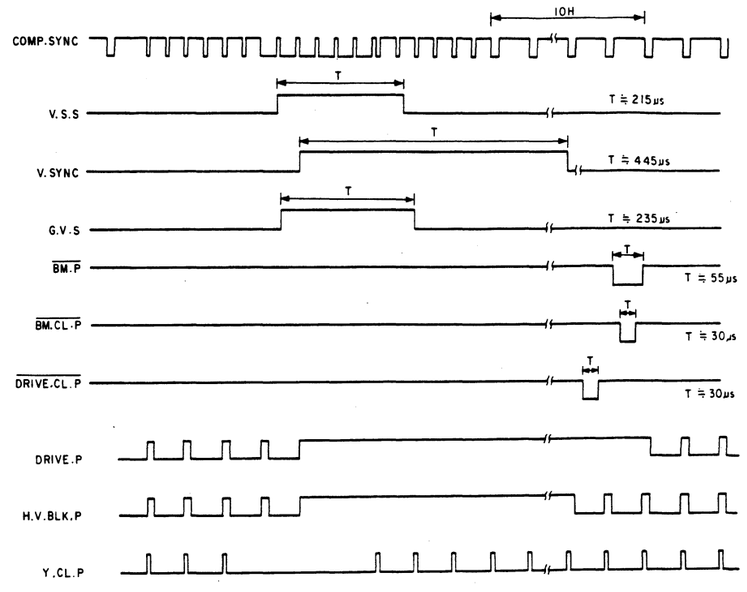



*Figure 8*

## FIELD 2 VERTICAL BLANKING

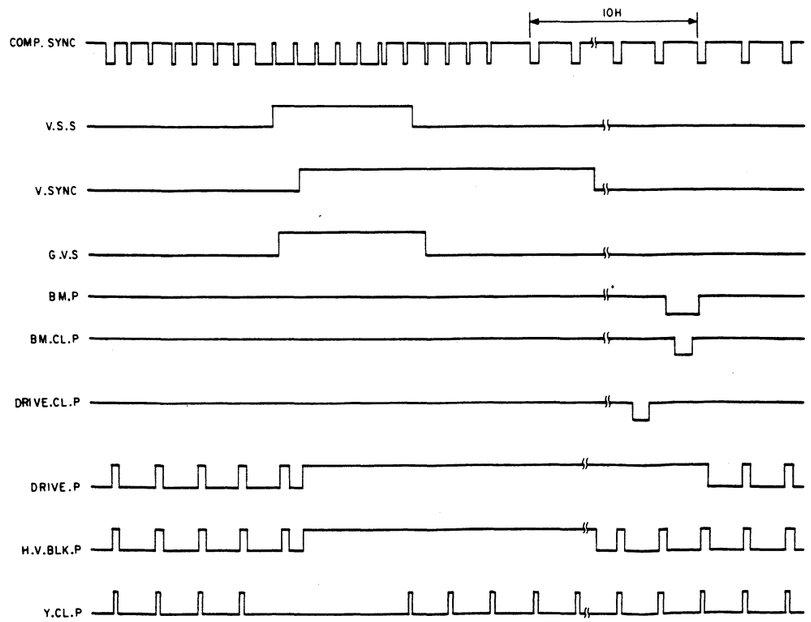



*Figure 9*

## 3-6. BK BOARD

Following are described about Red channal. Green and Blue channel are the same.

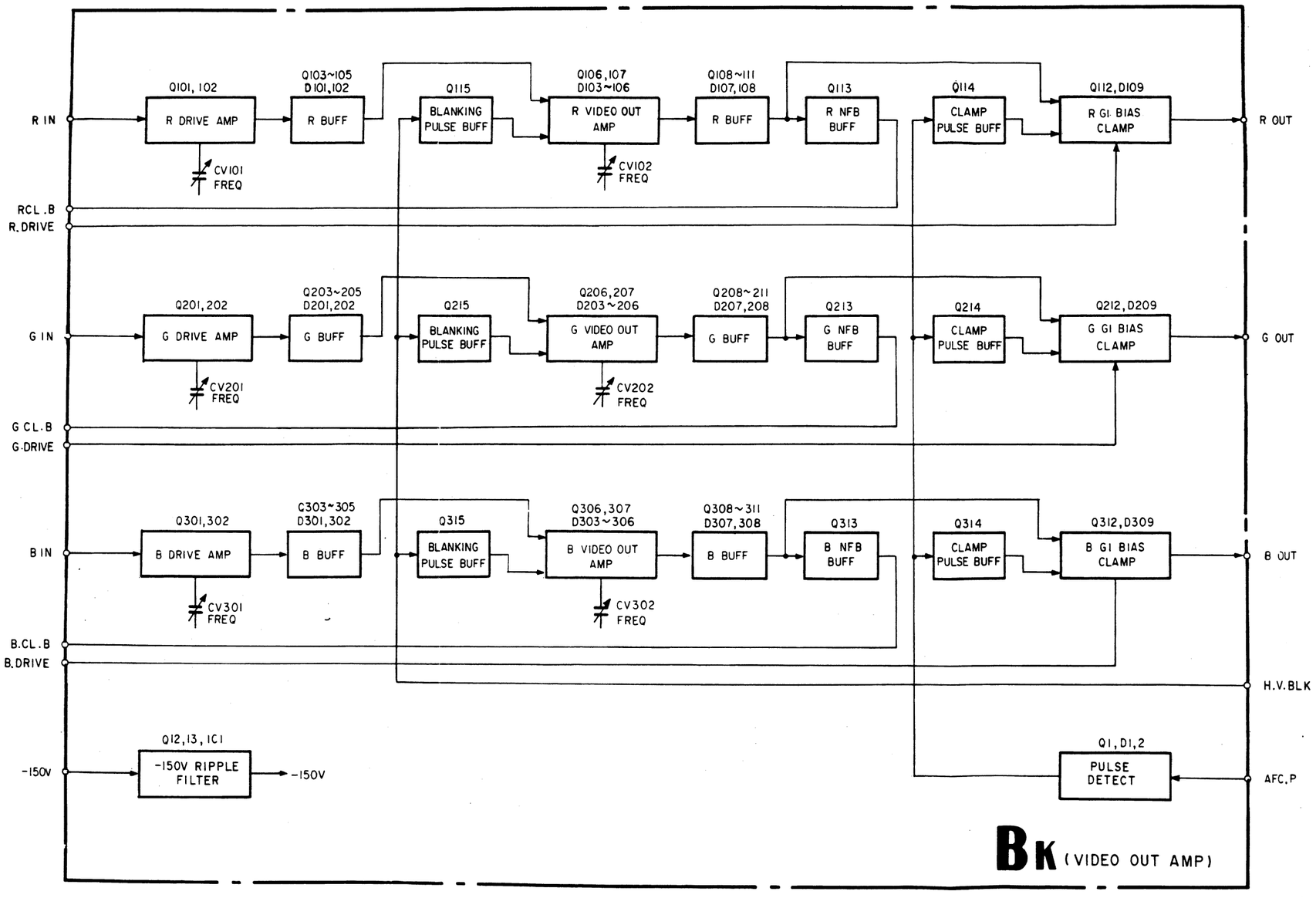
### 3-6-1. Red Drive Amplifier, Red Buffer

This circuit drives final stage of video output amplifier. Gain is approx. 2

### 3-6-2. Red Video Output Amplifier and Buffer

This is the final stage amplifier to obtain amplitude enough to drive G1 of CRT.
Gain is approx. 14
Also in this amplifier, BLANKING pulse is mixed with video signal.

**BLOCK DIAGRAM OF BK BOARD**



### 3-7. Beam control Circuit (BI, BK BOARD) (Same as Green and Blue)

Block diagram is shown in Figure 10.

#### 3-7-1. Detection of Cathode Current and I-V Conversion (BI BOARD)

Cathode current is detected as a voltage by using IC105 (1/2)

#### 3-7-2. Red G1 Bias Control (BI BOARD)

BMP is inserted in the signal during vertical blanking in BI board.
This BMP is detected as a cathode current and sampled by BM CLP applied to FET Q113.
This bias control circuit controls the base voltage of transistor Q114 so that converted voltage from cathode current and the reference voltage may match.

#### 3-7-3. Red G1 Bias Clamp Circuit (BK BOARD)

Video output signal is clamped at the voltage of collector of transistor Q114 in BI board by using transistor Q112.

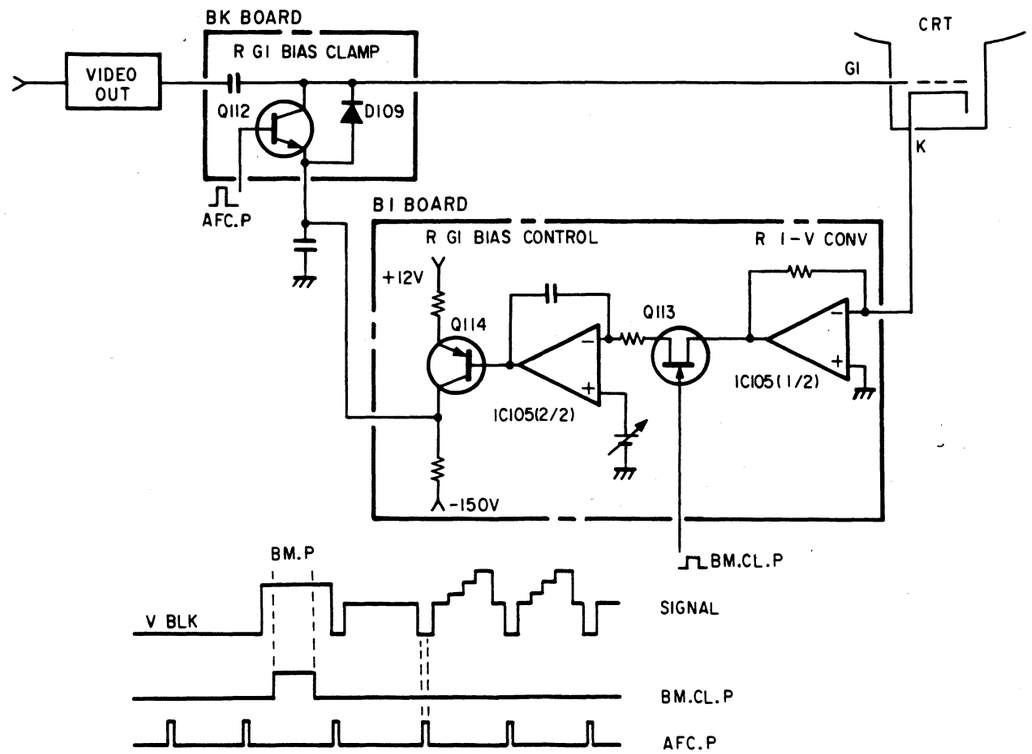



*Figure 10*

## 3-8. PAL DEMODULATOR, Y TRAP CIRCUIT (BD BOARD)

The composite video signal (PAL) supplied from BA board is fed to transistor Q1 (buffer), then is supplied to the 4.43 MHz trap circuit with Y signal and to band pass filter with chrominance signal.

### 3-8-1. Chroma Band Pass Filter

The composite video signal obtained from at the emitter of transistor Q1 is fed to the Band pass filter composed of resistor R12, capacitor C7, C8, inductor L3 and transistor Q5.
The center frequency of this filter is adjusted to the subcarrier frequency (4.43 MHz) by L3, and chrominance signal is derivied from Q5.

### 3-8-2. Residual SW Circuit

The chrominance signal derivied at transistor Q5 is fed to analog switcher IC2.
When switch S1 on BJ board is set to ON position, residual pulse which has almost same phase as H sync is fed to control terminal of analog switcher (pin ③ of IC2) and screening is performed during H sync period.
When switch S1 on BJ board is set to OFF position, Low level signal (0V DC) is fed to control terminal and screening action is not performed. Thus residual switch circuit does not activate.
When there is residual subcarrier in the video signal, clamp level of color difference signal changes by turning switch S1 ON/OFF and therefore residual subcarrier can be checked on the picture as a color shift.

### 3-8-3. Chroma Amplifier Circuit

The chrominance signal from residual switch circuit (IC2 pin④) is fed to chroma amplifier circuit (Q19, Q36).
After the chroma signal is amplified by the inversion amplifier (gain: 1X), it is voltage divided by resistors R400 and R314 and then input to the R-Y input terminal (IC1, pin (3)) and B-Y input terminal (IC1, pin (2)) of the following demodulator circuit via the buffer (Q38).

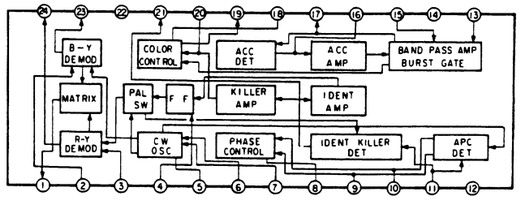
### 3-8-4. Phase Control Circuit

The chrominance signal from residual switch is also fed to phase control circuit (Q6, Q7, Q8, Q9, D12).
In this circuit, a variable capacitance diode (D10) is used to control the phase of color burst signal.
Anode voltage of D10 is applied by variable resistor RV8 and preset adjustment of phase is made by this variable resistor.
When the PHASE control on the right side of the front panel is turned, DC level of phase control signal (board terminal A13) changes and this phase control signal is fed to the cathode of D10 via analog switcher (IC5). In this way, Burst phase of chrominance signal is controlled according to the DC level of the phase control signal.
When PAL-D is selected with the PAL switch inside the right side drawer, between pins ③ and ④ of IC5 becomes conductive and phase control becomes dependent on RV7, disabling the Phase Control of the right side front panel.

Analog switcher IC5 (1/3) activates to make short-circuit between input terminal pin ③ or ⑤ and output terminal pin④, only when COLOR STANDARD SELECTOR in the right side of drawer is selected to PAL and otherwise pin ⑤ kept open circuit.
As above phase controlled chrominance signal is derived from collector of transistor Q9 and burst signal in this signal is gated by IC6. The gated burst signal is fed to the burst input terminal pin ⑪ of demodulator IC1.

### 3-8-5. PAL Demodulator

Block diagram of IC used for PAL demodulator is shown in Figure11.
This IC is designed for use of NTSC demodulator.
When chrominance signal is fed to pin ② and pin ③, color burst signal to pin ⑪ and Burst Gate Pulse (B.G.P.) to pin ⑬, R-Y and B-Y color difference signals are obtained at output terminals pin ㉓ and pin ㉔
The demodulation axes of this demodulator are R-Y axis and B-Y axis. Variable capacitor CV1 is adjusted so that the phase angles between them are 90°.
Local oscillator (4.43 MHz) is formed by CW oscillator in IC1 connected to the terminal pin⑤, ⑥, ⑦, ⑧ and external circuit.
The variable capacitor CV2 is adjusted so that the free run frequency may be subcarrer frequency 4.433619 MHz.
Also APC (Automatic Phase Control) circuit is formed by APC section in IC1 connected to the terminal pin ⑨ and ⑩ local oscillator is controlled by APC circuit.
The color difference signals demodulated by this IC are fed to low pass filter, where high frequency component is removed, then R-Y and B-Y color difference signals are obtained.



Block diagram of PAL demodulator

*Figure 11*

### 3-8-6. PAL-D Matrix and PAL S/D Switching Circuit

This circuit is further divided into circuits for the R-Y and B-Y signals, but the operation of both circuits is the same. So only the R-Y one will be explained.
R-Y signals input from the demodulator circuit are input to Q20 (BUFF) and Q21 (BUFF).
The signals input to Q21 are then input to pin ② of the analog switcher (IC5). When PAL S has been selected, between pins ② and ⑮ becomes conductive and the signals are supplied to the following circuit via Q33 (BUFF).
The signals input to Q20 are formed by IC7 and Q18.
Bias is controlled by a clamp circuit and is input to pin ⑮ of the 1H delay line (IC3). The DC level of the input is adjusted to the optimum value by using RV9.
IC3, driven by the 10.64 MHz clock signal generated by the clock generator circuit configured with XZ, Q34 and Q35, delays the input signal by 1H cycle and outputs it from pin ⑪.



The high frequency component of the signal thus output is removed by the low-pass filter configured with Q22 and Q23, after which the signal is input to the following PAL-D matrix circuit.
The PAL-D matrix circuit is configured with R100, R101 and Q24.
The signal that was not delayed is input through R100 while the 1H delayed signal is input through R101 at a ratio of 1/2.
The PAL-D signal added to the base of Q24 is obtained from its emitter. The signal obtained from the Q24 emitter is input to pin ① of IC5. When PAL-D is selected, between pins ① and ⑮ becomes conductive and the signal is supplied to the following circuit via Q33 (BUFF).

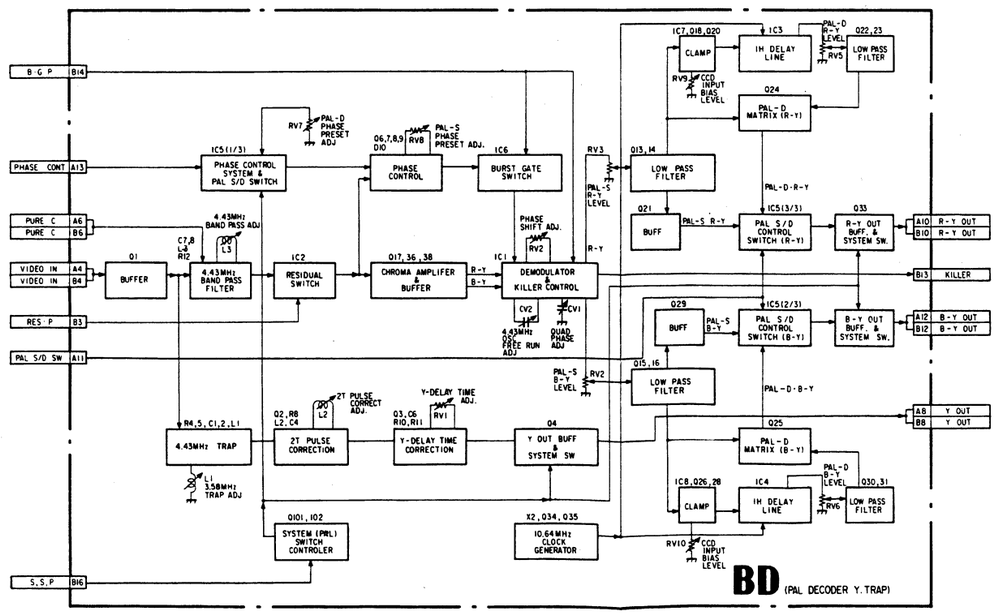
### 3-8-7. 4.43 MHz Trap Circuit, Phase Compensation, Y Delay Correction Circuit

The composite video signal from the emitter of transistor Q1 is fed to 4.43 MHz trap circuit composed of resistor R5, R6, R7, capacitor C1, C2 and inductor L1.
Adjustment of L1 is made so that the resonance frequency of this trap circuit should be subcarrier frequency.
Y (Luminance) signal removed subcarrier is obtained at output terminal of the trap circuit and is fed to the phase compensation circuit. (Transistor Q2, resistor R8, R9 R10, inductor L2 capacitor C4)
This circuit compensates phase delay of the signal at high frequency due to the trap circuit.
Y signal compensated phase delay is fed to Y-delay circuit. In this circuit Luminance/Chrominance time error is compensated by delay line.

### 3-8-8. Color Standard Selector

When PAL system is not selected by the COLOR STANDARD SELECTOR in the right side drawer, transistor Q101, Q102 are cut off and ±12V line power source is not supplied to the demodulator circuit.

## BLOCK DIAGRAM OF BD (PAL) BOARD



## 3-9. PAL-M DEMODULATOR, Y TRAP CIRCUIT (BM BOARD)

The composite video signal supplied from BA board is fed to transistor Q1 (buffer), then is supplied to the 3.58 MHz trap circuit with Y signal and to band pass filter with chrominance signal.

### 3-9-1. Chroma Band Pass Filter

The composite video signal obtained from at the emitter of transistor Q1 is fed to the Band pass filter composed of resistor R12, capacitor C7, C8, inductor L3 and transistor Q5.
The center frequency of this filter is adjusted to the subcarrier frequency (3.58 MHz) by L3, and chrominance signal is derivied from Q5.

### 3-9-2. Residual SW Circuit

The chrominance signal derived at transistor Q5 is fed to analog switcher IC2.
When switch S1 on BJ board is set to ON position, residual pulse which has almost same phase as H sync is fed to control terminal of analog switcher (pin ③ of IC2) and screening is performed during H sync period.
When switch S1 on BJ board is set to OFF position, Low level signal (0V DC) is fed to control terminal and screening action is not performed. Thus residual switch circuit does not activate.
When there is residual subcarrier in the video signal, clamp level of color difference signal changes by turning switch S1 ON/OFF and therefore residual subcarrier can be checked on the picture as a color shift.

### 3-9-3. Chroma Amplifier Circuit

The chrominance signal from residual switch circuit (IC2 pin④) is fed to chroma amplifier circuit (Q19, Q36).
After the chroma signal is amplified by the inversion amplifier (gain: 1X), it is voltage divided by resistors R400 and R314 and then input to the R-Y input terminal (IC1, pin (3)) and B-Y input terminal (IC1, pin (2)) of the following demodulator circuit via the buffer (Q38).

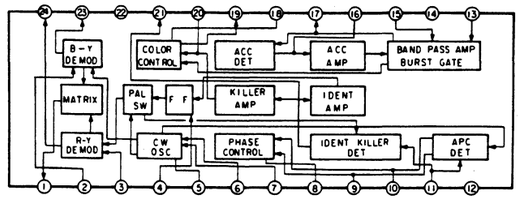
### 3-9-4. Phase Control Circuit

The chrominance signal from residual switch is also fed to phase control circuit (Q6, Q7, Q8, Q9, D12).
In this circuit, a variable capacitance diode (D10) is used to control the phase of color burst signal.
Anode voltage of D10 is applied by variable resistor RV8 and preset adjustment of phase is made by this variable resistor.
When the PHASE control on the right side of the front panel is turned, DC level of phase control signal (board terminal A13) changes and this phase control signal is fed to the cathode of D10 via analog switcher (IC5). In this way, Burst phase of chrominance signal is controlled according to the DC level of the phase control signal.
When PAL-D is selected with the PAL switch inside the right side drawer, between pins ③ and ④ of IC5 becomes conductive and phase control becomes dependent on RV7, disabling the Phase Control of the right side front panel.

Analog switcher IC5 (1/3) activates to make short-circuit between input terminal pin ③ or ⑤ and output terminal pin④, only when COLOR STANDARD SELECTOR in the right side of drawer is selected to PAL and otherwise pin ⑤ kept open circuit.
As above phase controlled chrominance signal is derived from collector of transistor Q9 and burst signal in this signal is gated by IC6. The gated burst signal is fed to the burst input terminal pin ⑪ of demodulator IC1.

### 3-9-5. PAL-M Demodulator

Block diagram of IC used for PAL demodulator is shown in Figure12. This IC is designed for use of NTSC demodulator.
When chrominance signal is fed to pin ② and pin ③, color burst signal to pin ⑪ and Burst Gate Pulse (B.G.P.) to pin ⑬, R-Y and B-Y color difference signals are obtained at output terminals pin ㉓ and pin ㉔
The demodulation axes of this demodulator are R-Y axis and B-Y axis. Variable capacitor CV1 is adjusted so that the phase angles between them are 90°.
Local oscillator (3.58 MHz) is formed by CW oscillator in IC1 connected to the terminal pin⑤, ⑥, ⑦, ⑧ and external circuit.
The variable capacitor CV2 is adjusted so that the free run frequency may be subcarrer frequency 3.575611 MHz.
Also APC (Automatic Phase Control) circuit is formed by APC section in IC1 connected to the terminal pin ⑨ and ⑩ local oscillator is controlled by APC circuit.
The color difference signals demodulated by this IC are fed to low pass filter, where high frequency component is removed, then R-Y and B-Y color difference signals are obtained.




Block diagram of PAL-M demodulator

*Figure 12*

### 3-9-6. PAL-D Matrix and PAL S/D Switching Circuit

This circuit is further divided into circuits for the R-Y and B-Y signals, but the operation of both circuits is the same. So only the R-Y one will be explained.
R-Y signals input from the demodulator circuit are input to Q20 (BUFF) and Q21 (BUFF).
The signals input to Q21 are then input to pin ② of the analog switcher (IC5). When PAL S has been selected, between pins ② and ⑮ becomes conductive and the signals are supplied to the following circuit via Q33 (BUFF).
The signals input to Q20 are formed by IC7 and Q18.
Bias is controlled by a clamp circuit and is input to pin ⑮ of the 1H delay line (IC3). The DC level of the input is adjusted to the optimum value by using RV9.
IC3, driven by the 10.64 MHz clock signal generated by the clock generator circuit configured with XZ, Q34 and Q35, delays the input signal by 1H cycle and outputs it from pin ⑪.



The high frequency component of the signal thus output is removed by the low-pass filter configured with Q22 and Q23, after which the signal is input to the following PAL-D matrix circuit.
The PAL-D matrix circuit is configured with R100, R101 and Q24. The signal that was not delayed is input through R100 while the 1H delayed signal is input through R101 at a ratio of 1/2.
The PAL-D signal added to the base of Q24 is obtained from its emitter. The signal obtained from the Q24 emitter is input to pin ① of IC5. When PAL-D is selected, between pins ① and ⑮ becomes conductive and the signal is supplied to the following circuit via Q33 (BUFF).

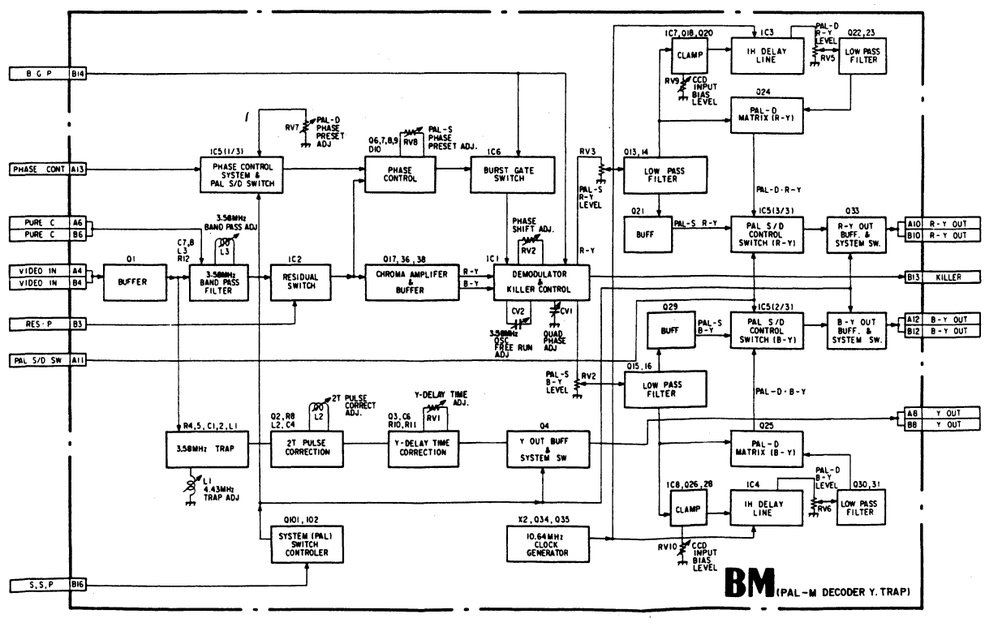
### 3-9-7. 3.58 MHz Trap Circuit, Phase Compensation, Y Delay Correction Circuit

The composite video signal from the emitter of transistor Q1 is fed to 3.58 MHz trap circuit composed of resistor R5, R6, R7, capacitor C1, C2 and inductor L1.
Adjustment of L1 is made so that the resonance frequency of this trap circuit should be subcarrier frequency.
Y (Luminance) signal removed subcarrier is obtained at output terminal of the trap circuit and is fed to the phase compensation circuit. (Transistor Q2, resistor R8, R9 R10, inductor L2 capacitor C4)
This circuit compensates phase delay of the signal at high frequency due to the trap circuit.
Y signal compensated phase delay is fed to Y-delay circuit. In this circuit Luminance/Chrominance time error is compensated by delay line.

### 3-9-8. Color Standard Selector

When PAL system is not selected by the COLOR STANDARD SELECTOR in the right side drawer, transistor Q101, Q102 are cut off and ±12V line power source is not supplied to the demodulator circuit.

## BLOCK DIAGRAM OF BM (PAL-M) BOARD



## 3-10. VERTICAL DEFLECTION OUTPUT CIRCUIT CONVERGENCE OUTPUT CIRCUIT (EB BOARD)

### 3-10-1. Vertical Deflection Output

Vertical Deflection Output amplifier is composed of DC coupled SEPP (Single Ended Push Pull) amplifier (Q1~Q5) and boost up circuit.
This boost up circuit contains transistors Q7 and Q8 to reduce power consumption by applying the voltage to the output transistor during vertical retrace time.
Both vertical rate saw tooth waveform and correction waveform for top and bottom pincushion are generated in DA board and fed to output amplifier. Vertical centering is performed by changing DC level of vertical rate sawtooth because Vertical DY (Deflection Yoke) is connected to output amplifier directly.

### 3-10-2. Convergence Yoke Output Circuit

CY (Convergence Yoke) is used for adjustment of misconvergence of vertical direction. This CY is driven by SEPP (single ended push pull) amplifier (Q9~Q13) and connected directly. Correction waveform is provided from DB board.

### 3-10-3. DCT (Dynamic Convergence Transformer) Output Circuit

This circuit is used for adjustment of misconvergence for Horizontal direction.
DCT is also driven by SEPP amplifier (Q14~Q19) and AC coupled to it.
Correction waveform is provided to the primary of DCT and transferred to the secondary windings, output voltage of secondary windings is applied to CV electrode of CRT (picture tube) and performed convergence adjustment.
circuit diagram shown in Figure 13 is the theory of basic DCT circuit.

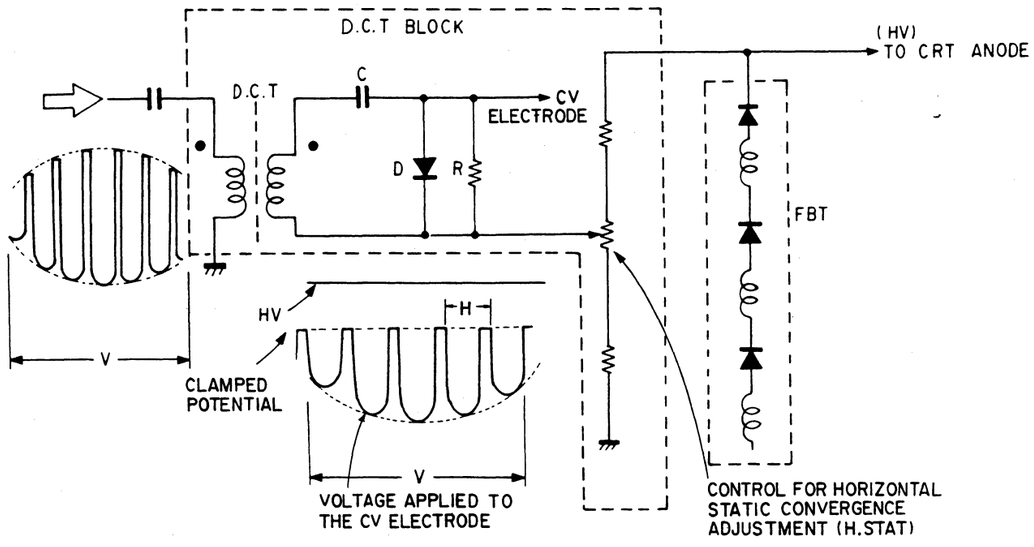
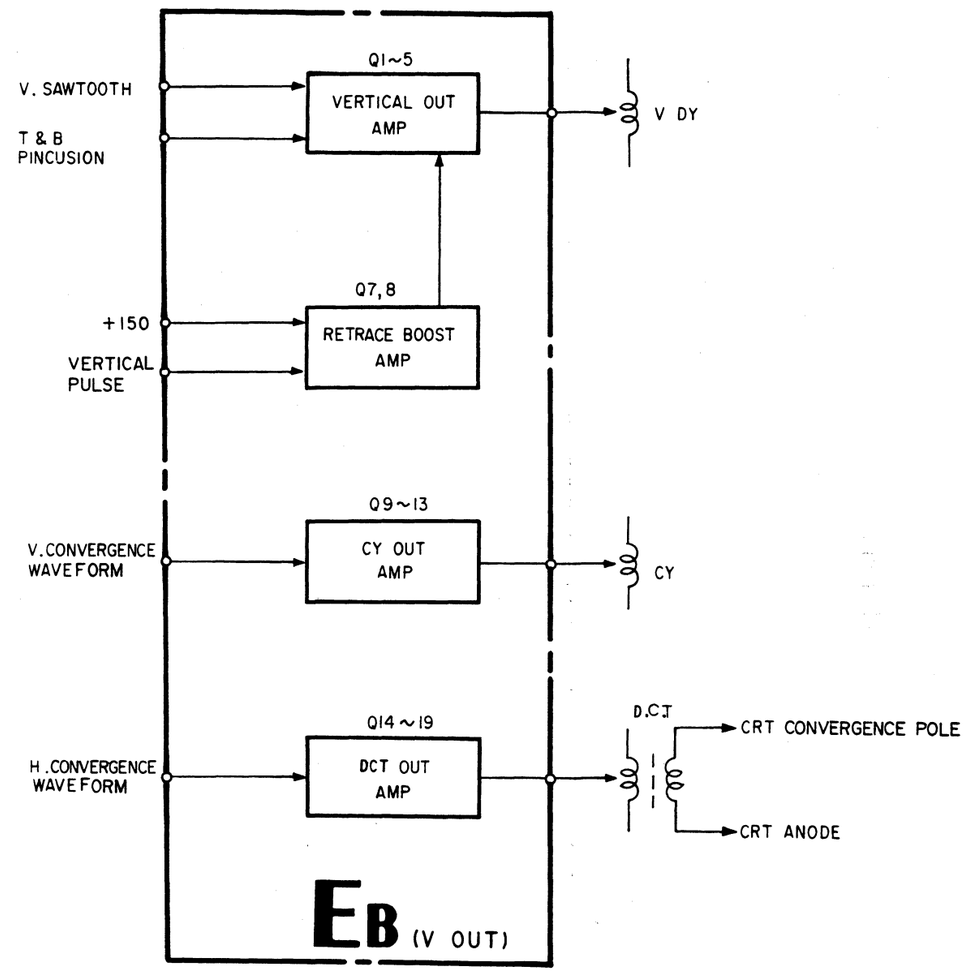



*Figure 13*



### BLOCK DIAGRAM OF EB BOARD



## 3-11. POWER SUPPLY CIRCUIT (GA, GB BOARDS)

### 3-11-1. AC Power Supply, Rectifier Circuit

Voltage selector located at the rear side of the unit should be selected to the local line voltage (AC 100/120V or 220/240V).
In case of AC 100/120V selected by voltage selector, rectifier D21 capacitors C80 and C81 operate as a double multiple rectifier.
See Figure 14(a).
In case of AC 220/240V selected by voltage selector, rectifier D21 capacitors C80 and C81 operate as a full-wave rectifier.
See Figure 14(b).

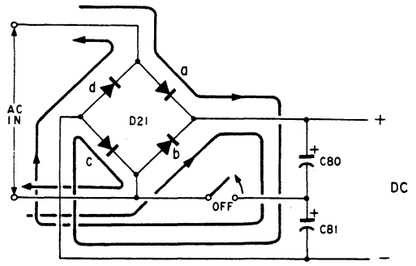
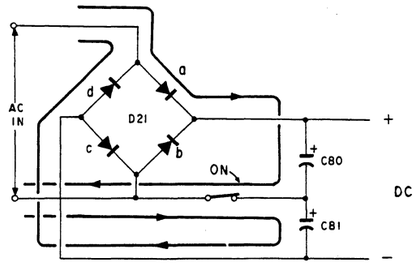



*Figure 14(a)*




AC IN Passes through D21d and charges to C81.

AC

Passes through D21a and charges to C80.

*Figure 14(b)*

### 3-11-2. Degauss Circuit

There are 2 posistors (PTH1, PTH2) in the degaussing circuit. One is used for AC 100/120V operation, the other is for AC 220/240V operation, these posistors are switched by voltage selector.
This degaussing circuit is turned ON and OFF by using Relay (RY1) automatically.
When power is turned ON, Automatic degaussing starts to work and a few seconds later stops automatically.
Also Manual degaussing is available if necessary after a few minutes power is turned on when posistor (PTH1 or PTH2) gets cool down. This manual degaussing is operated by a push of button (Degauss Switch) at the left of the front panel.
When degaussing circuit starts to work, Q11 transistor turns on by time constant circuit composed of resistors R88, 91 and capacitor C74. Q11 drives Q12 transistor. Relay (RY1) is driven by Q12. Time constant circuit keeps degaussing circuit to activate for several seconds until degaussing is finished.

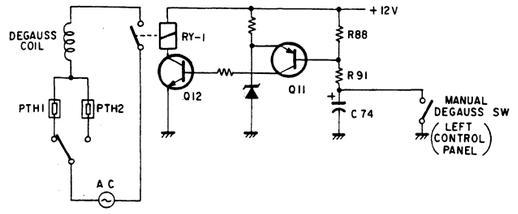



*Figure 15*

### 3-11-3. Starter Circuit

Blocking oscillator composed of IC1 and T4 starts working by turning the power on. DC output voltage of the rectifying-circuit, D7 and C57 in T4 secondary circuit, is supplied to the regulator-circuit IC (IC2 and IC3) with line voltage of 50 to 70V AC (at 110/120V AC) by function of the start-rectifying circuit (Q7, Q8, Q9). And the regulator circuit starts working and as +15V-line works, the voltage is supplied to the regulator-circuit IC through D20.
At the same time, a voltage for stopping the blocking-oscillator operation is provided to IC1 from the primary winding ⑥–⑦ of the switching regulator transformer SRT2.

### 3-11-4. Switching Regulator Circuit

Block diagram is shown in Figure 16. This is half bridge type of switching regulator in this model.

**Following Description is the Theory of Half-Bridge Switching Regulator.**

DC voltage $E_{IN}$ rectified from AC voltage in AC power rectifier section is divided by capacitor C1 and C2. C1 and C2 have almost same value. Q1 (contains 2 transistors) operates as a switch driven by PWM modulated pulse via T2 (Drive Transformer). Switching current flows through primary windings of T1 (SRT) by switching transistor Q1 via T3 (Current Transformer).
Thus output voltages are generated at secondary windings of T1.

**Practical Circuit Used in this Model**

There are 2 switching regulators in this power supply. One is for low voltage power supply, ±15V, ±18V and +5V. The other is for high voltage ±150V power supply.
Low voltages are generated by IC2, T1, T2, T3 and Q2
High voltages are generated by IC3, T6, T7 and Q2
Refer to block diagram
Current Transformer T3 and T7 detects excess current in transistor Q1 and Q2 for the protection of damage.

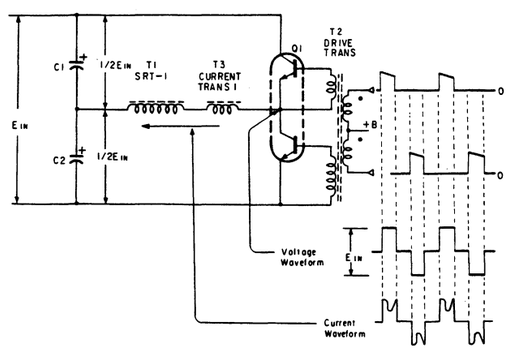


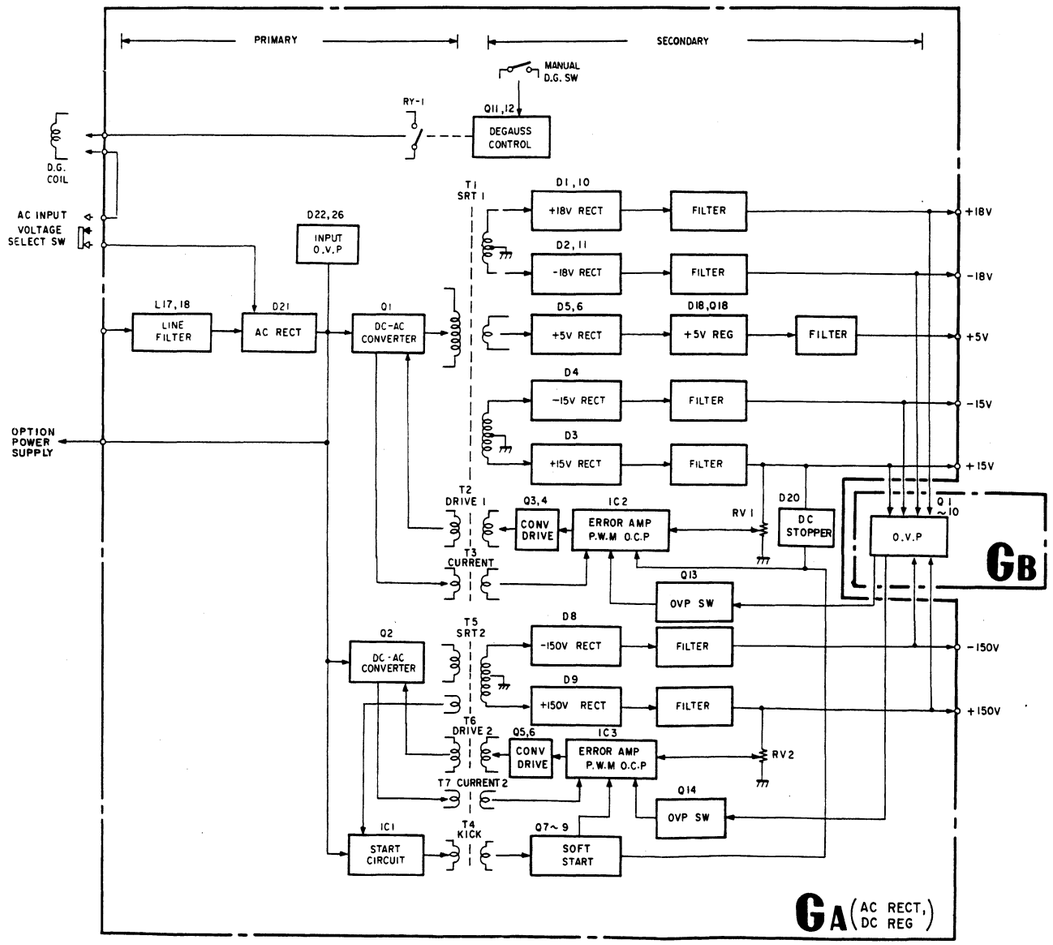

*Figure 16*



### 3-11-5. Over Voltage Protector

GB board, mounted on the GA board, is a protection circuit that when the output voltage surpasses the rated value for some reason, it makes short-circuit the CT (frequency-determination capacitor) on IC2 and IC3 and the regulator stops its operation to protect the circuits.

## BLOCK DIAGRAM OF GA, GB BOARDS



## 3-12. CONVERGENCE CIRCUIT (DB, DC BOARDS, DCT BLOCK)

### 3-12-1. General Description

This is a simple explanation of the convergence system in Super fine Trinitron picture tube used in this model.
The Deflection Yoke (DY) used in this model generates an almost uniform magnetic field in order to get fine beam spot size. Accordingly basically misconvergence of horizontal direction as shown in Figure 17 is generated on the picture screen.

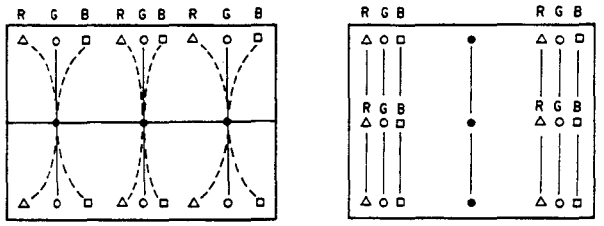



*Figure 17*

### 3-12-2. Static Electrorical Convergence System

Trinitron system has a unique static convergence system.
The structure of electric gun is shown in Figure 18.
G6 is the electrode for convergence. Static electrorical convergence control can be used. In this system beam spot deterioration is less than that of the electromagnetic system.

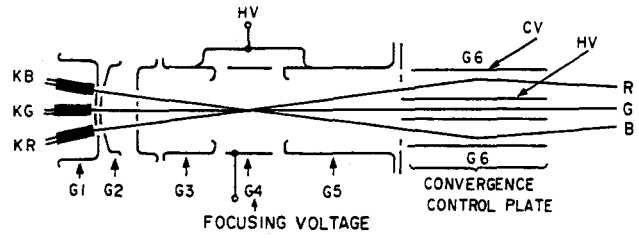
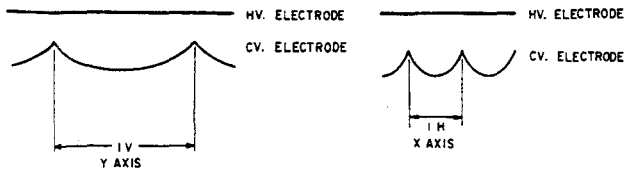



*Figure 18*

### 3-12-3. Convergence Correction Circuit (Horizontal Convergence)

Misconvergence of horizontal direction on Y axis is corrected by applying vertical rate parabola waveform to the convergence plate (G6)
And misconvergence of horizontal direction is corrected by applying horizontal rate parabola waveform to G6.
See Figure 19.




HORIZONTAL MISCONVERGENCE

*Figure 19*

In this model, transformer is used to supply correction voltage to the G6 electrode for the horizontal direction misconvergence. In the secondary of the transformer peak clamp circuit using diode is applied so that both the vertical rate parabola waveform and horizontal rate parabola waveform are mixed and supplied to CV electrode. See Figure 20.

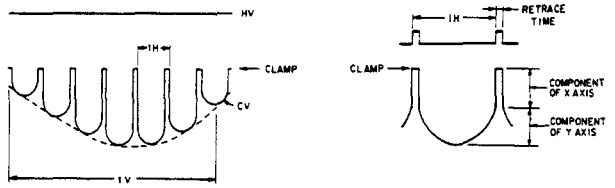



*Figure 20*

The correction waveforms are generated in DB board and output amplifier is located in EB board.

### 3-12-4. Vertical Convergence

Theoretically there is no misconvergence of Vertical direction since electric gun is aligned in line. But there is a slight amount of misconvergence due to the variations of CRT and DY and also due to the terrestial magnetism.
There are also 2 kinds of misconvergence of vertical direction on X axis and Y axis as same as hoirzontal direction.
Misconvergence of Vertical direction on X axis is corrected by CY (convergence yoke).
Figure 21 shows the CRT neck as seen from the rear side.
Red beam and Blue beam are moved to the vertical direction differentially by CY. As Green beam is at the center of the CRT neck, it is not affected by the magnetic field of CY due to the cancellation of the magnetic field at the center of the neck.
Misconvergence of vertical direction on Y axis is corrected by NTC (Neck Twist Coil).
A Neck Twist Coil is wound around the center of electrode G2 ~ G3 (See Figure 24) for the correction. Theortically, as the RED and Blue beams have HI component (They are opposite direction) as seen in Figure 21, they move to the vertical direction due to the magnetic field generated by NTC.
However as magnetic field of the NTC is the parallel to the Green beam, Green beam is not affected.
Correction waveform generator is located in DB board, output amplifier of CY is in EB board and output amplifier of NTC is in DB board.

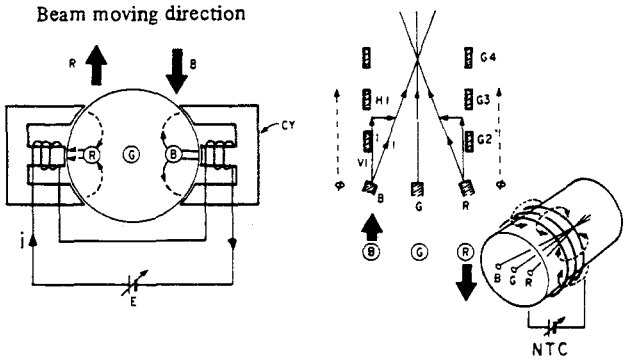
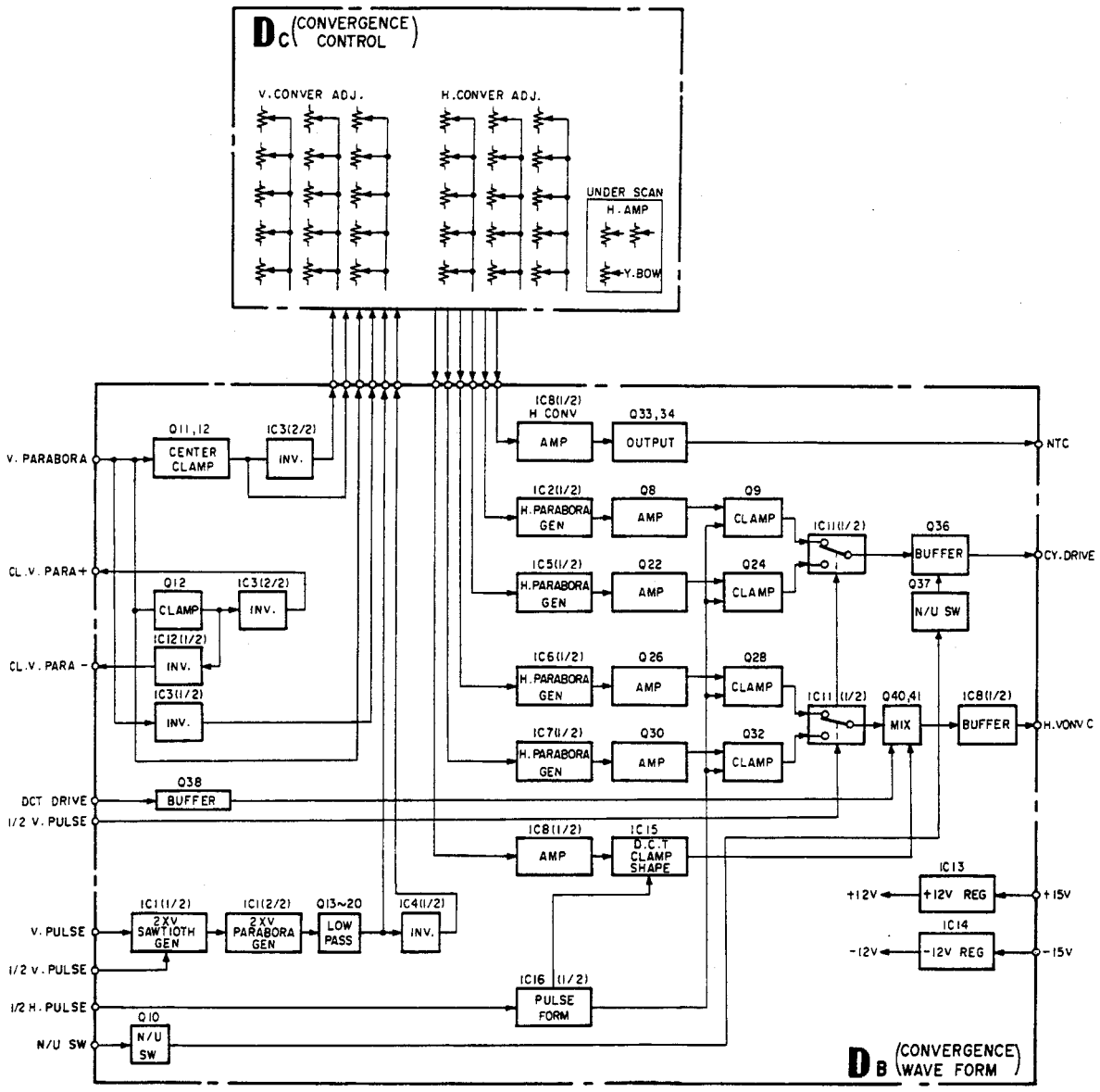



*Figure 21*

## BLOCK DIAGRAM OF DB, DC BOARDS



### 3-12-5. Convergence Correction Waveform Generator (DB BOARD)

This monitor incorporates unique convergence circuit which can adjust convergence at 15 positions of the picture screen, each 15 potentiometers for horizontal and vertical convergence adjustments are located on the left side of the drawer corresponding to the picture screen.

### 3-12-6. Horizontal Convergence Correction Waveform Generator

A vertical rate parabola waveform is supplied to the DB board from the DB board and is inverted and switched to make correction waveform.
For the left side of the picture screen, the correction waveform is compounded by adjusting potentiometers RV16 ~ RV20 on the DC board. This waveform is converted to horizontal rate parabola waveform which level is proportional to the compounded waveform by H parabola generator (IC6, Q25). This is amplified by transistor Q26 and clamped at the center position of the horizontal period by transistor Q28 and IC6. See Figure 22.

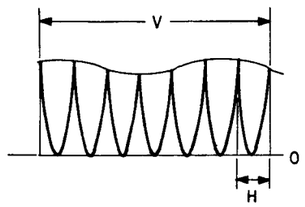



*Figure 22*

For the right side of the picture screen, the correction waveform is generated by adjusting potentiometers RV26 ~ RV30 on the DC board as same as the left side of the picture.
These correction waveforms (left and right side) are switched and mixed by analog switcher which activates at 1/2H period as seen in Figure 23.

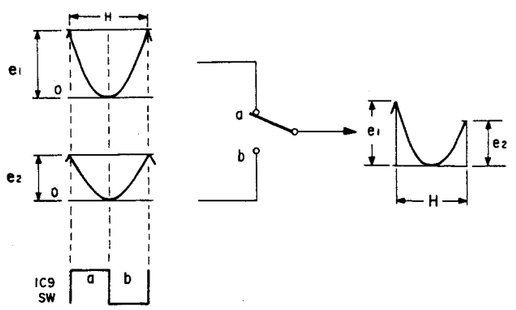



*Figure 23*

As a result, right side adjustments and left side adjustment can be performed independently of each other.
For the center of the picture screen, vertical parabola waveform is compounded to the correction waveform by adjusting potentiometers RV21 ~ RV25 on the DC board, and converted to horizontal pulse. This means amplitude of horizontal pulse is modulated by vertical parabola. (Q40, 41) See Figure 24.



This modulated pulse is mixed with horizontal parabola for left and right side correction. This mixed waveform is amplified and supplied to convergence plate in CRT via DCT. Thus horizontal convergence is corrected. See Figure 24.

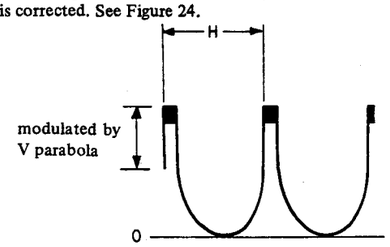



*Figure 24*

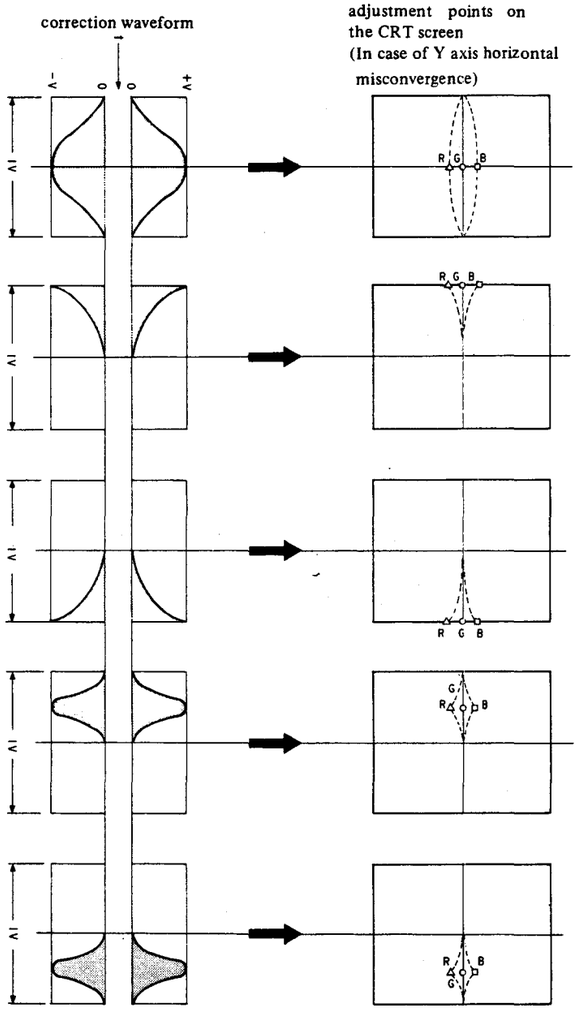
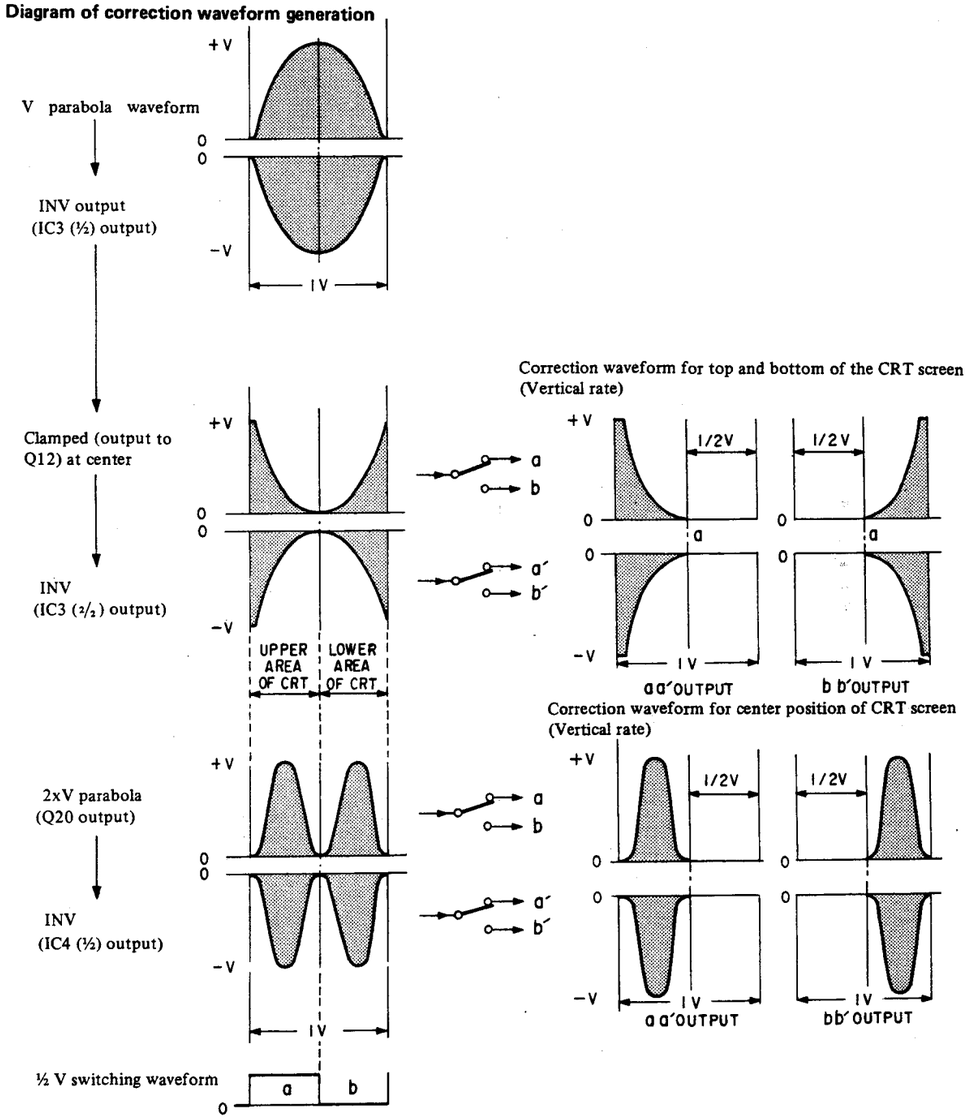



*Figure 25*

### 3-12-7. Vertical Convergence Correction Waveform Generator

For the left and right side of the picture, correction circuit for vertical convergence is same as horizontal correction circuit of left and right side of the picture. The correction waveform is amplified in EB board and supplied to CY.
For the center of picture screen, correction waveform is fed to amplifier (IC8 (1/2), Q33 Q34) and supplied to NTC (Neck twist Coil).
This vertical convergence is performed.

**Diagram of correction waveform generation**




Correction waveform for top and bottom of the CRT screen
(Vertical rate)




Correction waveform for center position of CRT screen
(Vertical rate)

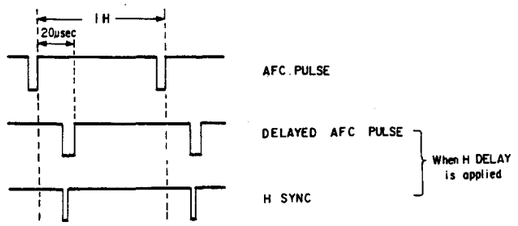



*Figure 26*

## 3-13. DEFLECTION CIRCUIT (DA BOARD)

### 3-13-1. H Delay and Horizontal AFC (Automatic Frequency Control) Circuit

In this model H delay function is performed by delaying H. AFC pulse in the horizontal AFC circuit. (See Figure 27)
H. AFC pulse which is fed from H.O.T. (Horizontal Output transformer) is wave shaped and is delayed about 20 μs by IC1 (2/2).
This delayed pulse is integrated by inductor L1, and capacitor C14, thus saw tooth waveform is obtained and fed to terminal pin ④ of IC4. AFC detection is performed by IC4, Output of AFC detector is fed to control terminal of horizontal oscillator (H.OSC) via low pass filter composed of capacitor C12, C15 and resistor R10.
3 types of AFC mode are selected by changing low pass filter which determines AFC time constant.
AFC time constant circuit is composed of switch S1, resistor R13, R14, R15 and capacitor C17, C18.

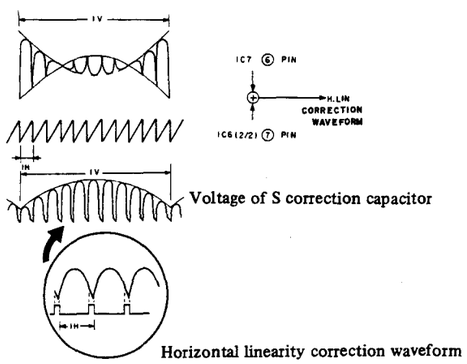



Pulse at H delay operation

*Figure 27*

### 3-13-2. Horizontal Linearity Correction Circuit

In this model Horizontal Linearity correction is made by applying correction voltage to the Horizontal deflection circuit.
Basically, Linearity correction is made by modulating power source of horizontal output circuit with horizontal saw tooth voltage.
Also So-called "Inside pincushion" correction is performed by applying correction waveform to S correction capacitor.
This correction waveform is generated by balanced modulator (IC7) with vertical rate parabola waveform. See Figure 28.
Horizontal sawtooth waveform is generated by IC5 (1/2) for horizontal linearity correction. Horizontal rate parabola waveform is generated by integration of saw tooth by IC6 (1/2). This parabola waveform is performed balanced modulation by IC7 with vertical rate parabola waveform, horizontal saw tooth and parabola waveform are fed to horizontal linearity output amplifier in EA board. Correction of horizontal linearity correction and inside pincushion correction are performed.




Voltage of S correction capacitor

Horizontal linearity correction waveform

*Figure 28*

### 3-13-3. Horizontal Blanking Pulse Generator

Horizontal rate sawtooth waveform generated in H. Linearity circuit is fed to the comparator IC8 (1/2). In this circuit, 1/2H delayed pulse is obtained. This pulse is fed to integrator IC9 (1/2) and 1/2H delayed sawtooth waveform is obtained and this is fed to the comparator IC10 (1/2).
Thus the comparator generates horizontal pulse to make H. Blanking pulse wich starts just before the starting edge of the retrace time. Also width of horizontal blanking pulse is determined by JK-FF IC1 (1/2).

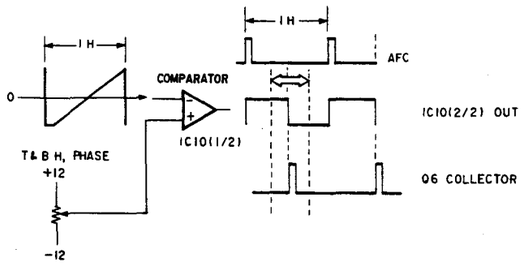



*Figure 29*

### 3-13-4. Top & Bottom Pincushion Circuit

Horizontal rate sawtooth waveform generated in H Linearity circuit is also fed IC10. IC10 generates advanced H pulse for the phase correction because vertical Deflection Yoke works as an integrator at horizontal rate, and deflection current for Top & Bottom pincushion correction is delayed about 1/2H for this reason. See Figure 29.
Advanced H pulse is fed to IC11 (1/2) and advanced horizontal sawtooth waveform is generated. It is integrated by IC11 (2/2) and horizontal rate parabola waveform is obtained.
Modulated butterfly waveform for Top & Bottom pincushion correction is obtained by Balanced modulator IC12. In this balanced modulator, horizontal rate parabola waveform is used as a carrier and vertical rate sawtooth waveform is modulated by this carrier. See Figure 30.
This correction waveform is fed to vertical deflection output amplifier in EB board.

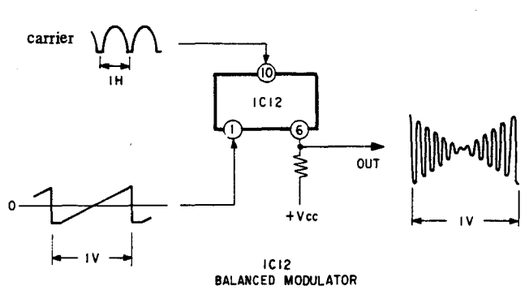



*Figure 30*



### 3-13-5. Automatic 50/60Hz Field Selection Circuit

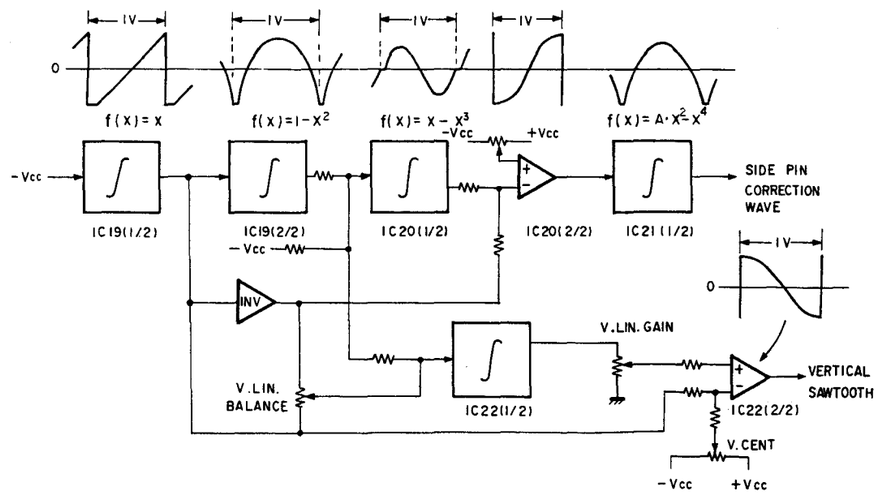
This model has an automatic vertical field frequency selection circuit so that color systems with different frequencies such as NTSC or PAL and SECAM can be received. IC18 is automatic field frequency detecting device and its output switches (IC13) time constant of integrator in vertical deflection circuit.

### 3-13-6. Scan Mode Selection Circuit

There are 3 modes of scanning in this model: NORMAL SCAN/ UNDER SCAN/SET UP SCAN.
There are level adjustments for H1 width, V, height side pincushion and top & bottom pincushion.
Levels of correction waveforms are switched so that these adjustments are made independently for each scanning mode. IC14, IC15 and IC16 activates for this purpose.

### 3-13-7. Vertical Deflection, Side Pincushion Correction

IC19 (1/2) generates vertical rate sawtooth waveform for vertical deflection. V sawtooth waveform is generated by the integrator IC9 (1/2) which is reset by V sync.
Also vertical rate parabola is generated by integrating V. sawtooth waveform by IC9 (2/2).
This V parabola is used for side pincushion correction, and also V. parabola is converted to sine waveform by IC20 (1/2) and is mixed with V parabola waveform. This mixed waveform is used for side pincushion correction and fed to side pincushion output amplifier in EA board.
Vertical drive voltage for vertical deflection is generated by mixing vertical rate sawtooth waveform generated by IC19 (1/2) and sine waveform generated by IC22 (1/2).
This drive waveform is fed to vertical deflection output amplifier. Balance adjustment of vertical linearity correction can be performed by IC22 (1/2) and vertical centering can be adjusted by IC22 (2/2).



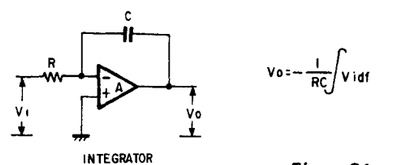
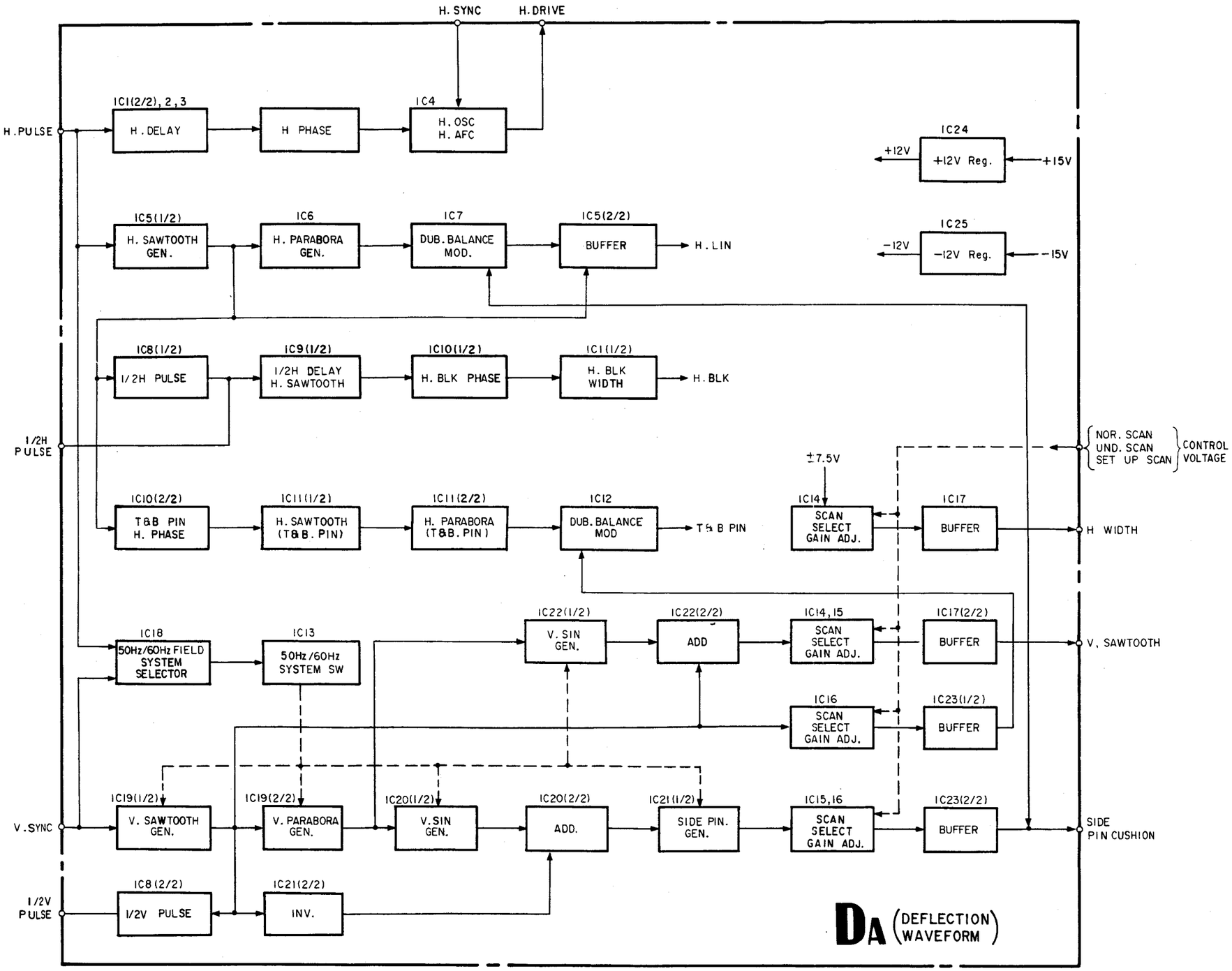




*Figure 31*

## BLOCK DIAGRAM OF DA BOARD



## 3-14. HORIZONTAL OUTPUT (EA BOARD)

### 3-14-1. Horizontal Deflection Circuit

Horizontal drive pulse for Horizontal deflection output is made at DA board and is fed to T4 (Horizontal Drive Transformer) via Q13 (H. driver). T4 is driven by Q13 and output pulse of T4 drives Q14 (Horizontal Output Transistor).
To obtain high efficiency in this model, DC-DC converter is used for side pincushion correction, Horizontal Width adjustment and +B Line voltage conversion to the horizontal deflection circuit.
This converted Line voltage is fed to horizontal deflection output circuit via H.O.T (Horizontal Output Transformer). Side pincushion correction and H. width adjustment are made by this DC-DC converter. IC1 contains error amplifier and PWM (Pulse Width Modulator) circuit for DC-DC converter. Side pincushion correction waveform and DC voltage for H. Width adjustment are made in DA board and supplied to error amplifier to control DC-DC converter.

### 3-14-2. Horizontal Centering Circuit

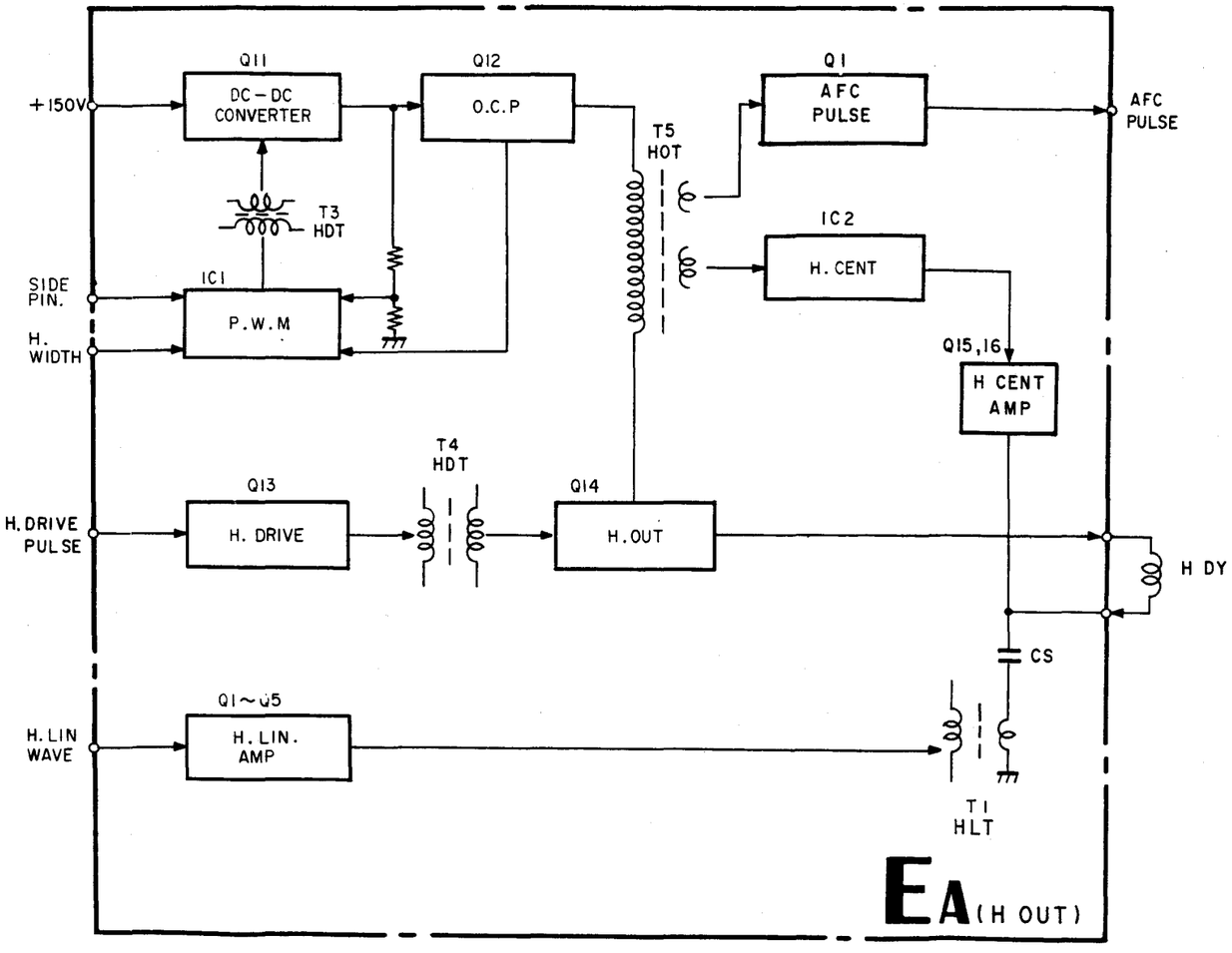
± low voltages power supply for H centering are made in this circuit from output of secondary windings of T5 (Horizontal Output Transformer). These low voltages are converted to current source for mixing DC current on the deflection current. In this circuit Bow shaped geometry distortion due to the H centering adjustment is adjusted by providing vertical rate parabola waveform current on the H centering current.

### 3-14-3. Horizontal Linearity Correction Circuit

Waveform for Horizontal Linearity correction made in DA board is fed to SEPP amplifier (Single Ended Push Pull) which are composed of Q1 - Q5 transistors. Output of this amplifier is fed to H deflection circuit (Deflection Yoke) and make correction of H linearity by T1 (Horizontal Linearity Transformer).



**BLOCK DIAGRAM OF EA BOARD**



## 3-15. HIGH VOLTAGE REGULATOR (PA BOARD)

This high voltage regulator uses also DC-DC converter so as to reduce power consumption.
The theory of operation of this circuit is as follows.

### 3-15-1. Detection of High Voltage

High Voltage applied to the CRT anode is converted to the low voltage by DCT block (Dynamic Convergence Transformer). This low voltage is fed to buffer amplifier IC4(2/2) and compared with external reference voltage in IC1. The DCT contains resistornetwork and transformer for convergence adjustment. This resistornetwork works as a voltage divider.

### 3-15-2. PWM Modulator

IC1 works as error amplifier and PWM modulator comparing voltage between high voltage and the reference voltage is amplified and modulated so as to drive Q102 output transistor. Output signal from IC1, which is modulated in PWM, is fed to Q102 via drive transformer. +B line supplied to FBT (Fly Back Transformer) circuit is controlled by switching Q102 output transistor on/off.

### 3-15-3. Output Circuit

When high voltage drops down, output voltage of DCT also drops as above mentioned. At this time PWM circuit is designed so that the ON period of Q102 output transistor should be longer than high voltage drops down. +B line, switched ON/OFF by Q102, is supplied to converter circuit which drives FBT via LOT (Line Output Transformer).
Amount of collector current of Q103, which drives FBT, depends upon ON period of Q102 because PWM modulator is triggered by H. pulse. Therefore when ON period of Q102 is longer, collector current of Q103 increases and energy stored in capacitor C124 increases, causing potential of C124 to rise. (Refer to Figure 37)
When output transistor Q103 goes off, flyback pulse is generated by resonance between capacitor C108 and inductance obtained by parallel connection of FBT and LOT. This flyback pulse is transferred to the secondary circuit of FBT. Therefore high voltage is generated.

### 3-15-4. High Voltage Regulator

Q102, Q107, IC4 (2/2), IC1 (IC for controlling P.W.M) and HVR (D C T block) form a regulator.
Since the detection pin voltage of HVR is decreased when the high voltage is lowered due to increase of the CRT current, it makes the switch ON time length of Q102 longer. As a result, the collector peak current of Q103 is increased and accordingly, the energy accumulated in C124, which is fed to it through the FBT, is increased. In this way, it raises the potential of C124 and regulates the high voltage.
Q103,C108, C124 and the FBT form a hign voltage converter circuit.
The pulse of on-duty 60% is generated with the H pulse by a time constant circuit which consists of Q109, Q110, Q111, Q112, R143, C128, R144, C127 and D111. When Q103 is switched OFF due to the on-duty 60% pulse, flyback pulse is generated at the collector of Q103 by resonating of the LOT, FBT and C108.

### 3-15-5. High Voltage Protection Circuit

High voltage protector activates to shut down high voltage, when high voltage exceeds the predetermined value so as to prevent Xray radiation.

The high voltage converted to the low voltage is detected at the terminal of DCT block. This detected voltage is fed to the + input terminal of comparator IC2(2/2) via low pass filter, which is composed of resistor R245 and capacitor C216. When this voltage exceeds the reference voltage, the voltage of ⊖ input terminal of comparator IC2(2/2), output level of this comparator goes high level and turns SCR (D206) gate on to shut down the drive pulse of flyback generator. Thus high voltage stops.
The reference voltage of the comparator IC2(2/2) is made by mixing stabilized voltage (zener diode D215)

### 3-15-6. Protection Circuit for Excess Beam Current

Beam current which flows in secondary windings of FBT is measured at the terminal 9 of FBT. This beam current is converted to the voltage by resistor R1 (R4) and R2 (R3), R5 (R6) located in PB board in series connection of secondary windings of FBT. This converted voltage is fed to ⊖input of comparator IC2(1/2) or IC3 (1/2). As beam current increases, ⊖input voltage goes down. When beam current increases until ⊖input voltage goes below the reference voltage (⊕ input terminal voltage) output voltage of comparator goes up high level and SCR (D205 or D206) turns ON. Thus drive pulse of flyback generator is shut down. Therefore high voltage stops.

### 3-15-7. CRT Protection Circuit

When vertical deflection stops, this circuit activates to shut down high voltage to prevent damage of CRT.
When vertical deflection stops, there is no vertical output pulse generated at vertical output amplifier. So Q201 transistor is cut off and output of comparator IC4(1/2) goes up high level. Q202 transistor turns on and flyback generator stops.

### 3-15-8. G2 Voltage Regulator

Flyback pulse generated at Q103 (H output transistor) is rectified to obtain DC voltage. This rectified DC voltage is regulated by Q104, IC3(1/2) and Q106 transistor. Regulated 410V DC voltage is obtained. Q105 transistor which works in accordance with G2 control circuit in BI board supplied proper voltage to G2 of CRT.

### 3-15-9. Power Supply for Heater

Power supply to heater is generated from secondary windings of LOT. Heater voltage is adjusted by resistor R107.

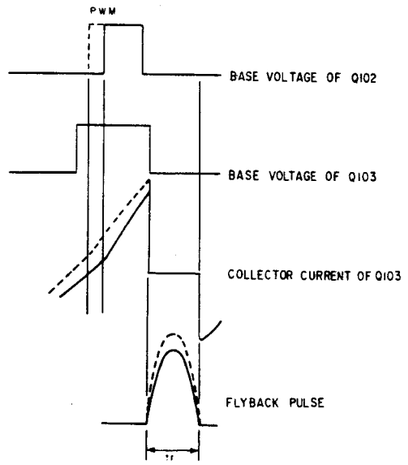



*Figure 32*



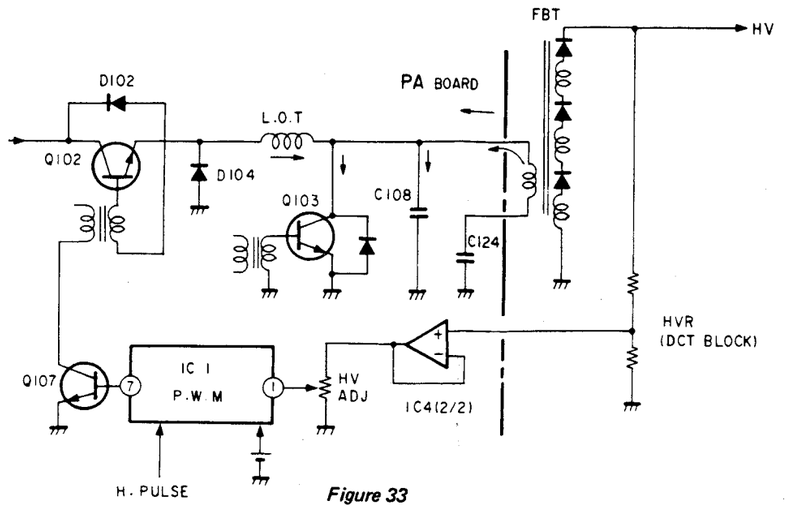
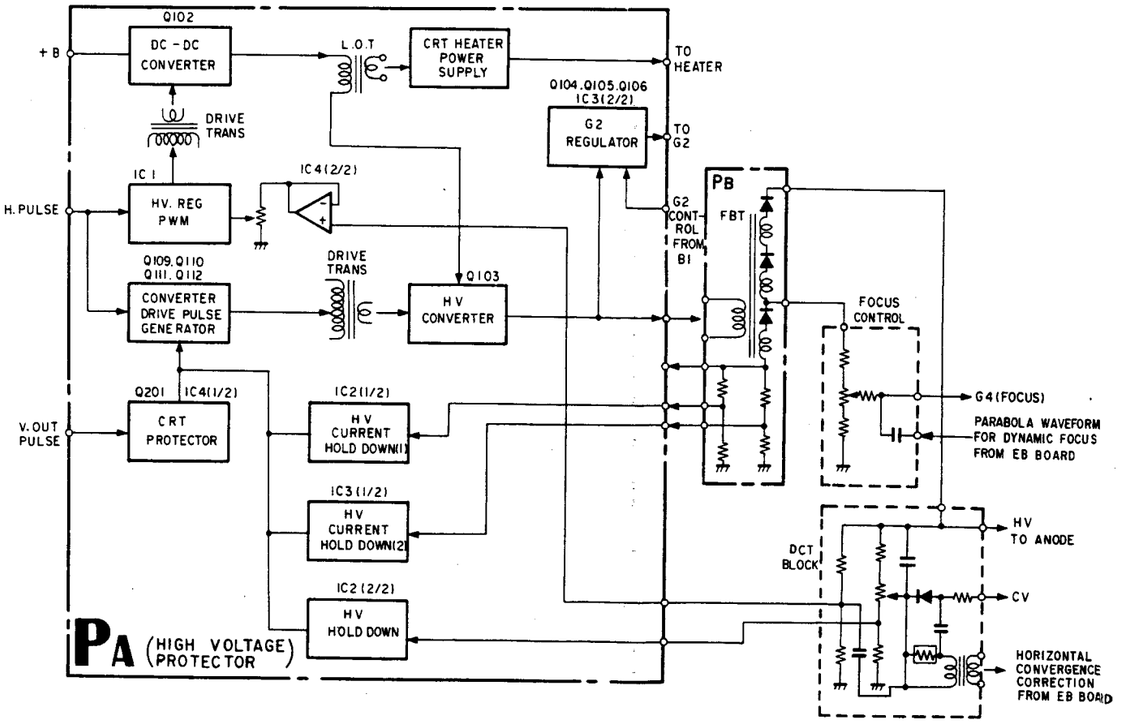



*Figure 33*

## BLOCK DIAGRAM OF PA BOARD

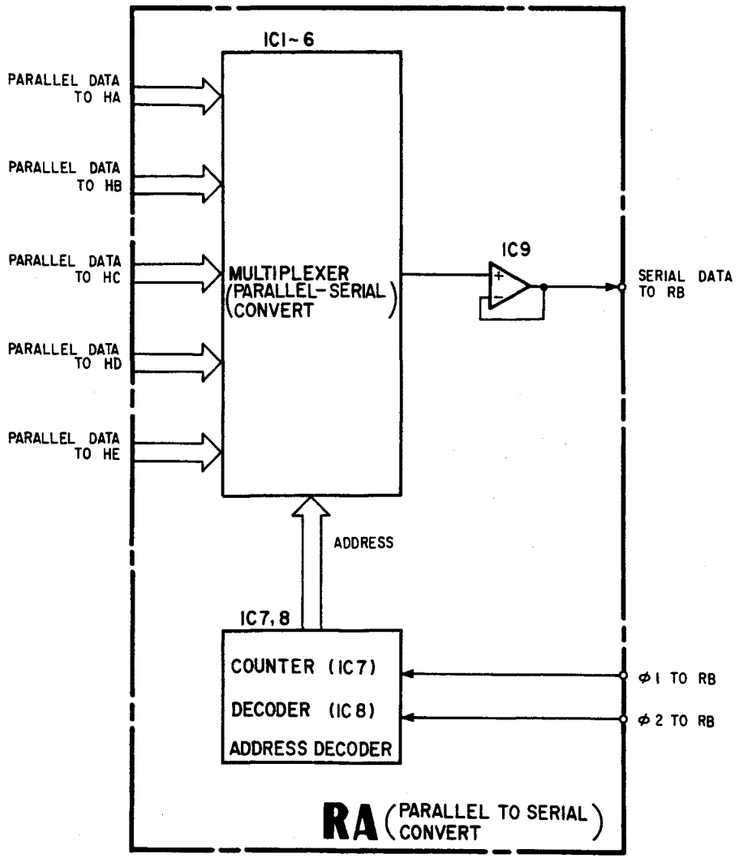


## 3-16. RA BOARD

### Parallel-Serial Conversion

In this board, parallel data of selector switches and manual controls, etc. are time divided by H cycle and converted to serial data. This circuit is composed of counter (IC7), decoder (IC8) and multiplexer (IC1 to IC6). The counter counts $\phi 1$ (normally H pulse), and is reset by $\phi 2$ (normally V pulse). The decoder decodes output of the counter, and gives address to multiplexer (IC1 to IC6). The multiplexer (IC1 to IC6) outputs in sequence from $Y_0$ correspondingly to addresses. In this way, parallel data is converted to serial data with H-cycle dividing.

BLOCK DIAGRAM OF RA BOARD



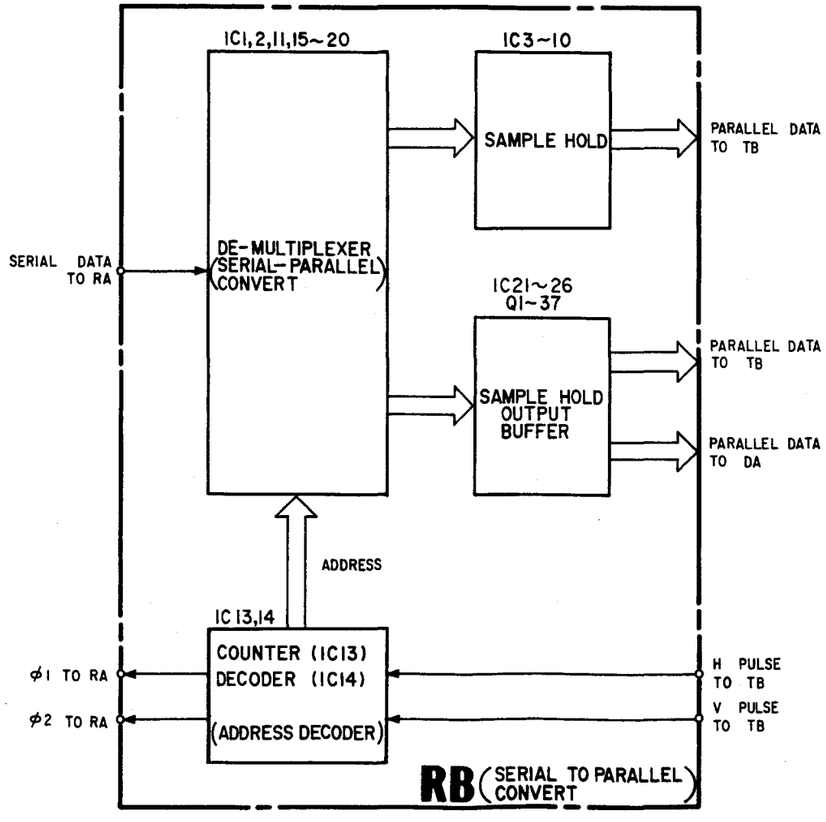



## 3-17. RB BOARD

### Serial-Parallel Conversion

In this board, serial data which are output from the RA board are converted to parallel data, and they are supplied to the control circuit. This circuit is composed of counter (IC13), decoder (IC14), demultiplexer (IC15 to IC20), sample hold and output buffer (IC3 to IC10, IC21 to IC26, Q1 to Q37). The counter counts $\phi 1$ (normally H pulse), and is reset by $\phi 2$ (normally V pulse). The decoder decodes output of the counter, and gives address to de-multiplexer (IC15 to IC20). The de-multiplexer (IC15 to IC20) outputs in sequence from $Y_0$ correspondingly to addresses. The output is sample and holded, and converted to parallel data, passed through output buffer and it controls respective control circuits.

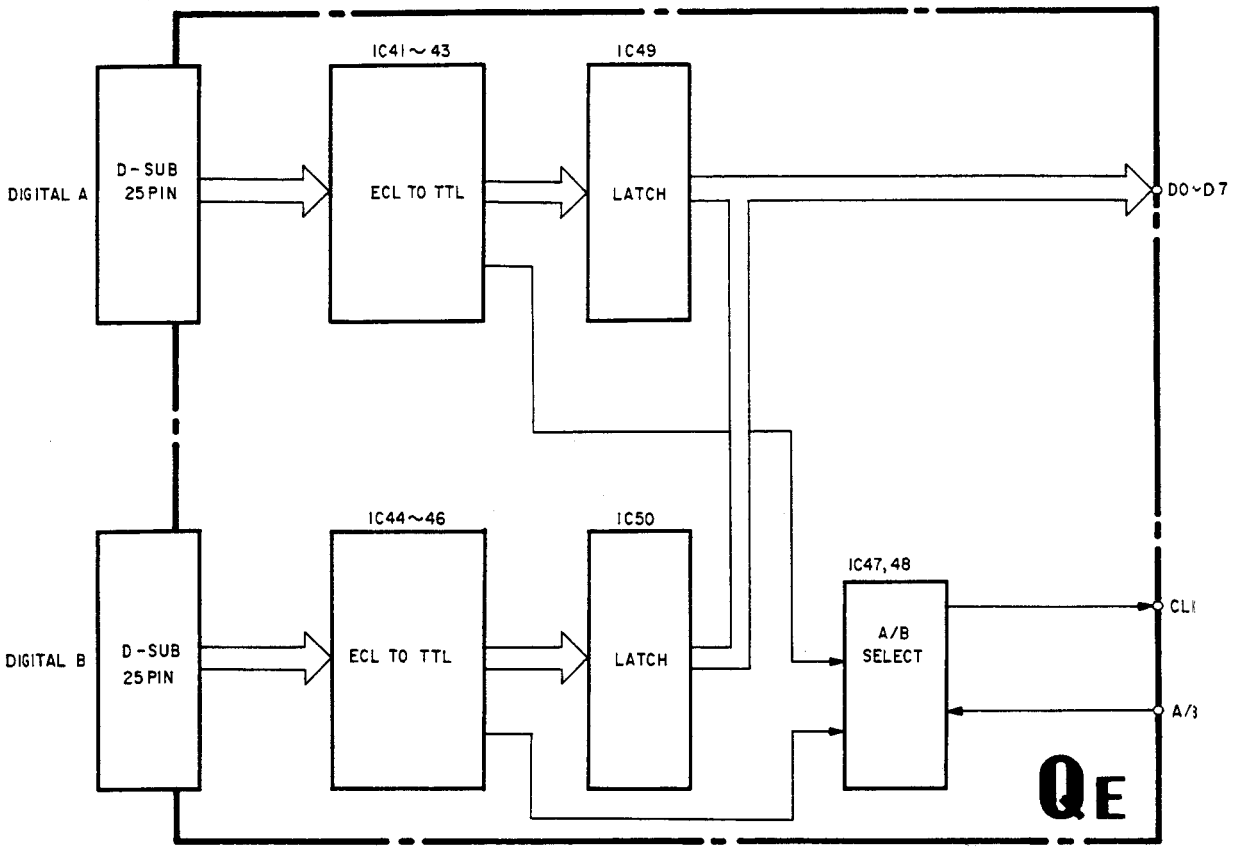
BLOCK DIAGRAM OF RB BOARD



## 3-18. QE BOARD (BVM-2010PD/PMD ONLY)

Conversion of ECC to TTL
The signal input from DIGITAL input connector is converted from ECL logic level to TTL logic level with IC41 to IC43 (IC44 to IC46). LATCH IC49 (IC50) selects input A and B by means of selection of OUTPUT ENABLE. CLOCK selects A and B with IC48.

### BLOCK DIAGRAM OF QE BOARD



## 3-19. QD BOARD (BVM-2010PD/PMD ONLY)

4:2:2 decode, D/A conversion (Hereinafter, similar to B-Y, Y)

### 3-19-1. 4:2:2 Decode

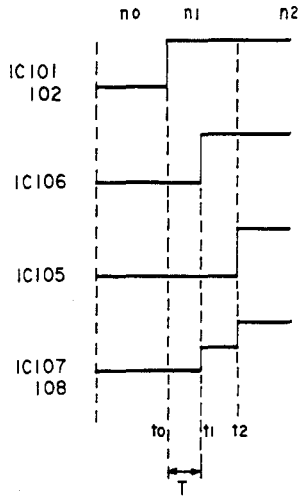
The signal input from the QE board is decoded into R-Y, B-Y and Y signals with IC8 and IC9.

### 3-19-2. Blanking

IC101 and IC102 are blanking circuits. When the horizontal and vertical blanking period is 0, blanking is selected to 80 (HEX) signal. (IC301 and IC302 select the black level to 10 (HEX).)

### 3-19-3. Digital Filter

IC105 to IC108 comprize a simple digital filter. It is explained in terms of analog, it becomes as shown in Fig. 38. The output data of IC101 and IC102 vary with clock of 2T such as n0, n1 and n2. IC105 and IC106 are deley circuits of 2T and T, respectively. IC107 and IC108 are adding circuits. The outputs of IC107 and IC108 varies n0, (n0 + n1)/2, n1 at the cycle of T. As a result, a data of (n0 + n1)/2 is interpolated between n0 and n1.



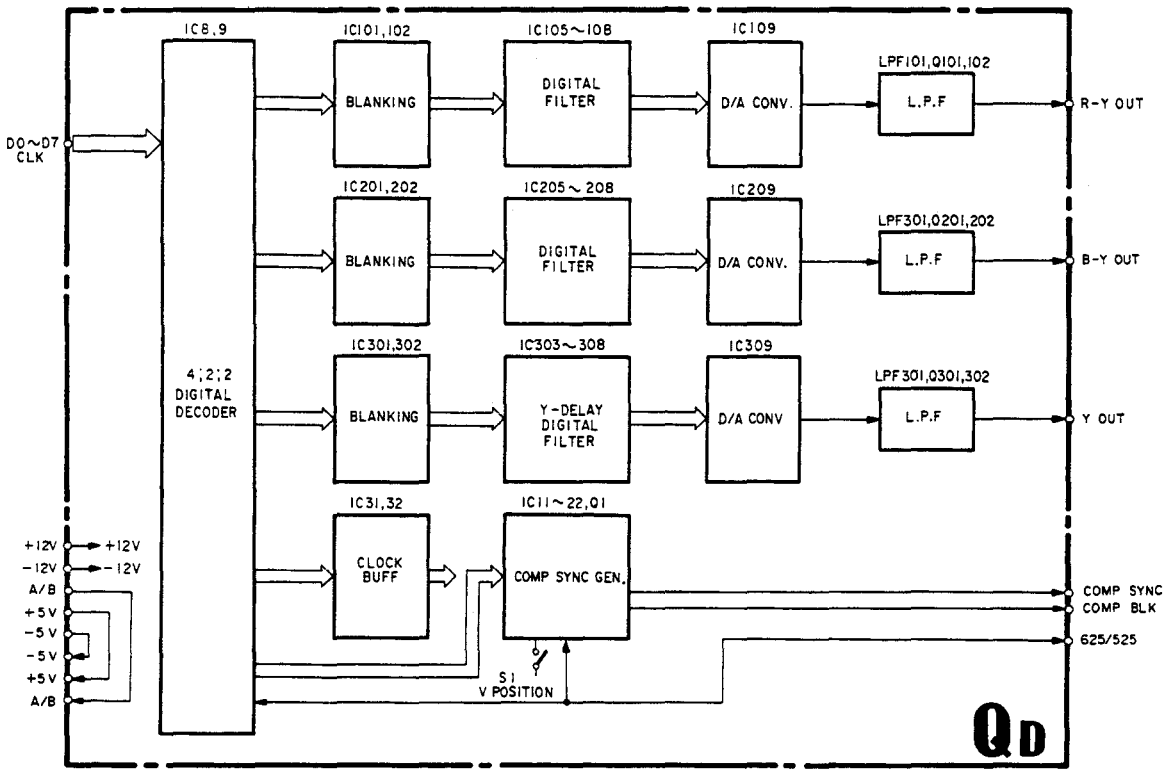

### 3-19-4. D/A Conversion

IC109 is an IC for D/A conversion and it converts the input digital signal into analog signal and it is output after being passed through Low Pass Filter (LPF101).

### 3-19-5. COMP SYNC Generator

IC11 to IC22 generate COMPOSITE SYNC signal from output clock, H signal and frame signal of IC8.

## BLOCK DIAGRAM OF QD BOARD



## 3-20. BR BOARD (BVM-2010PD/PMD ONLY)

### 3-20-1. R-Y AMP and DELAY circuit (Similar to B-Y)

The level and delay of R-Y signal output from the QD board are adjusted to those of Y signal with Q101 and IC101.

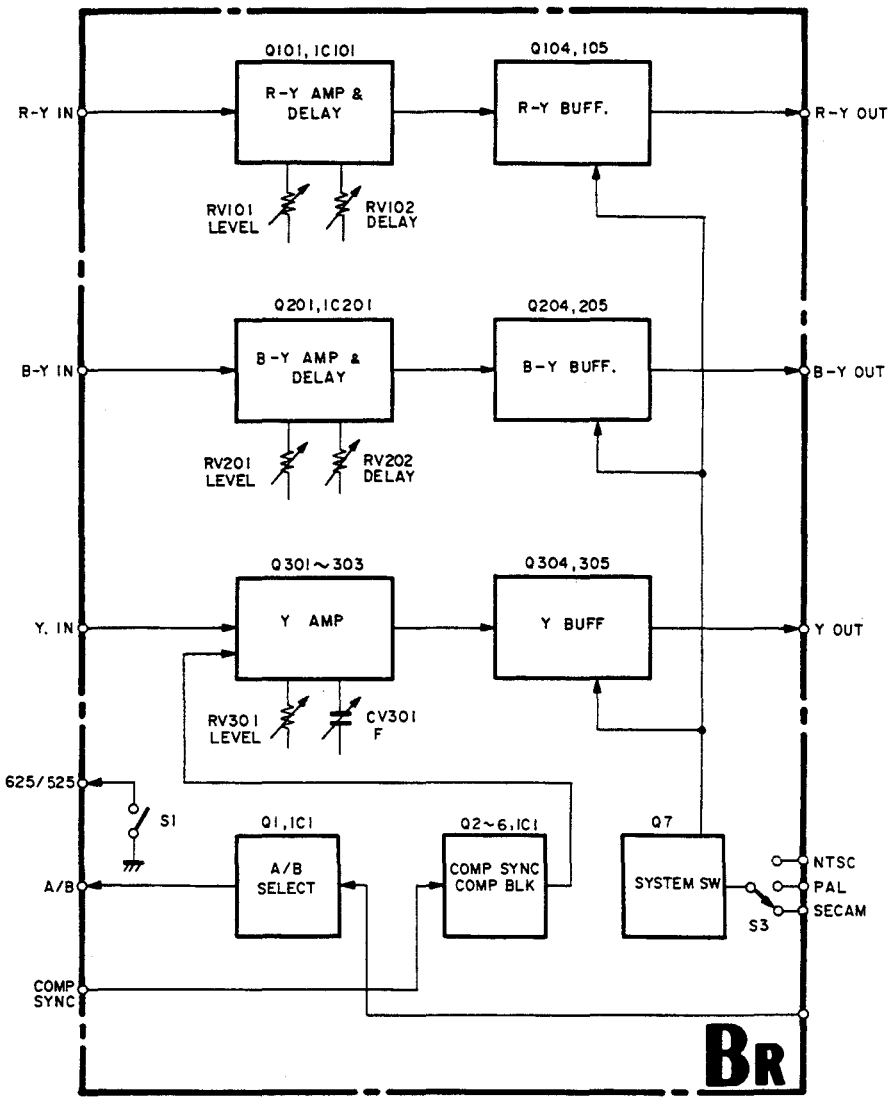
### 3-20-2. Y AMP

The Y signal output from the QD board is added COMP SYNC and amplified with Q301 to Q303.

### 3-20-3. R-Y BUFF (Similar to B-Y and Y)

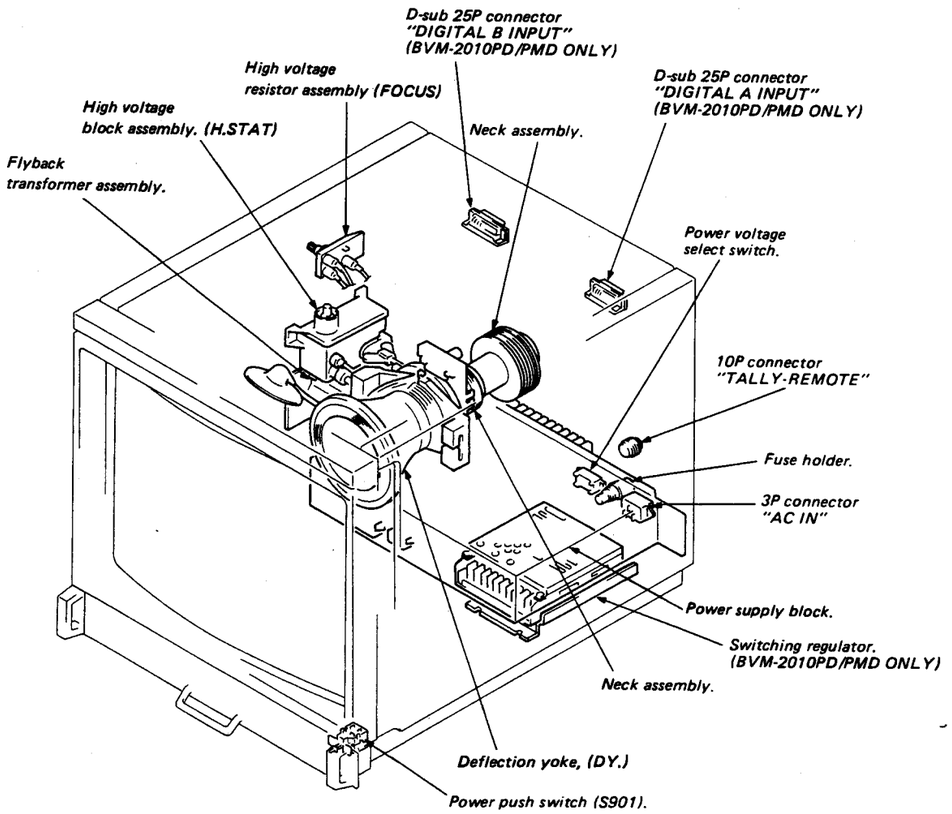
Q104 and Q105 output R-Y signal when DIGITAL is selected

## BLOCK DIAGRAM OF BR BOARD



# SECTION 4
# ADJUSTMENTS

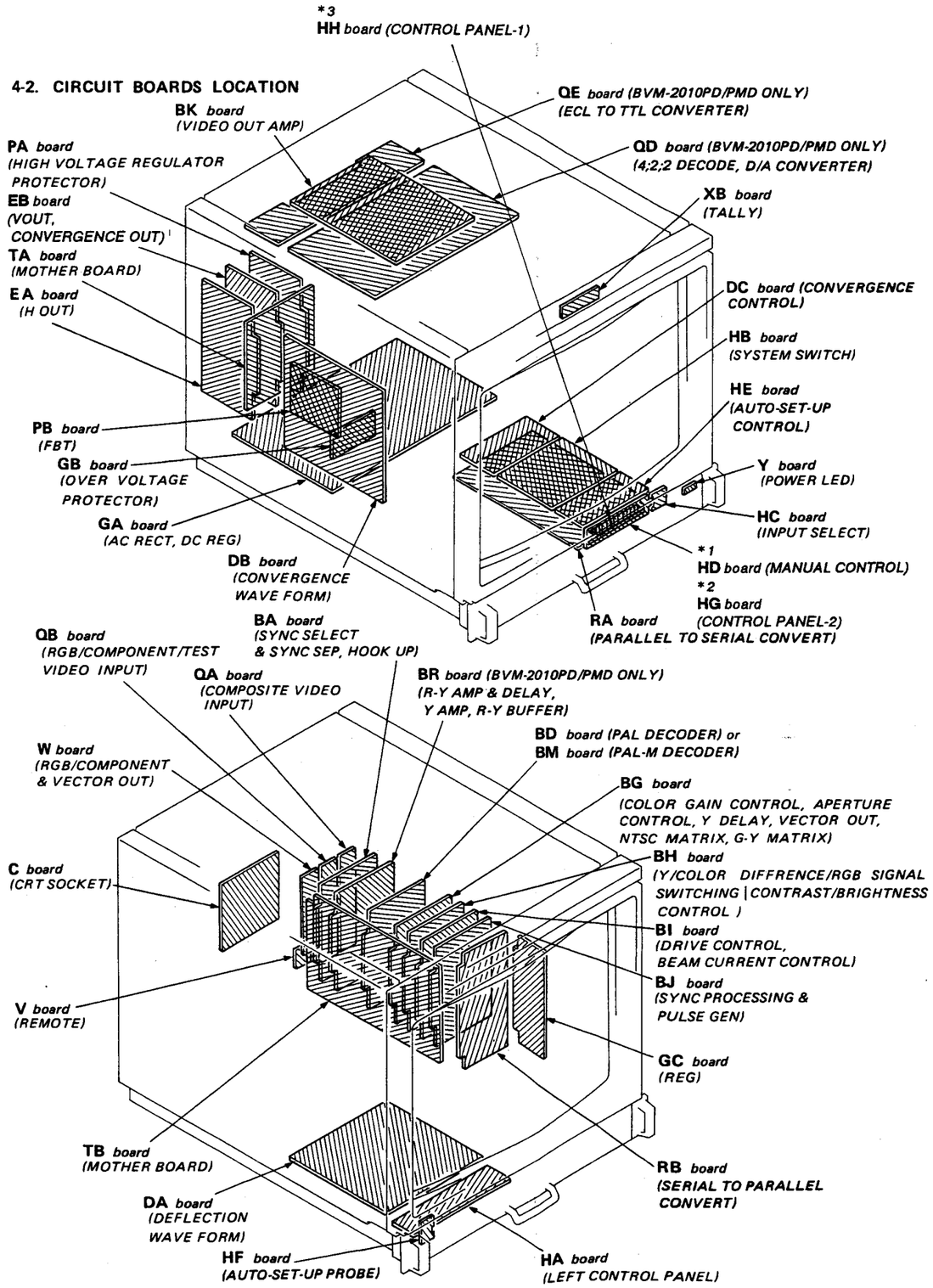
## 4-1. INTERNAL VIEW




*1 HD board
BVM-2010P ONLY Serial No. up to 2,001,080
BVM-2010PD ONLY Serial No. up to 2,000,041
BVM-2010PM ONLY Serial No. up to 2,000,003
*2, 3 HG, HH board
BVM-2010P ONLY Serial No. 2,001,081 and higher, BVM-2010PM ONLY Serial No. 2,000,004 and higher
BVM-2010PD ONLY Serial No. 2,000,042 and higher, BVM-2010PMD ONLY Serial No. 2,000,001 and higher



## 4-2. CIRCUIT BOARDS LOCATION



## 4-3. QUICK REFERENCE

(BR, QD, QE boards are BVM-2010PD/PMD only).

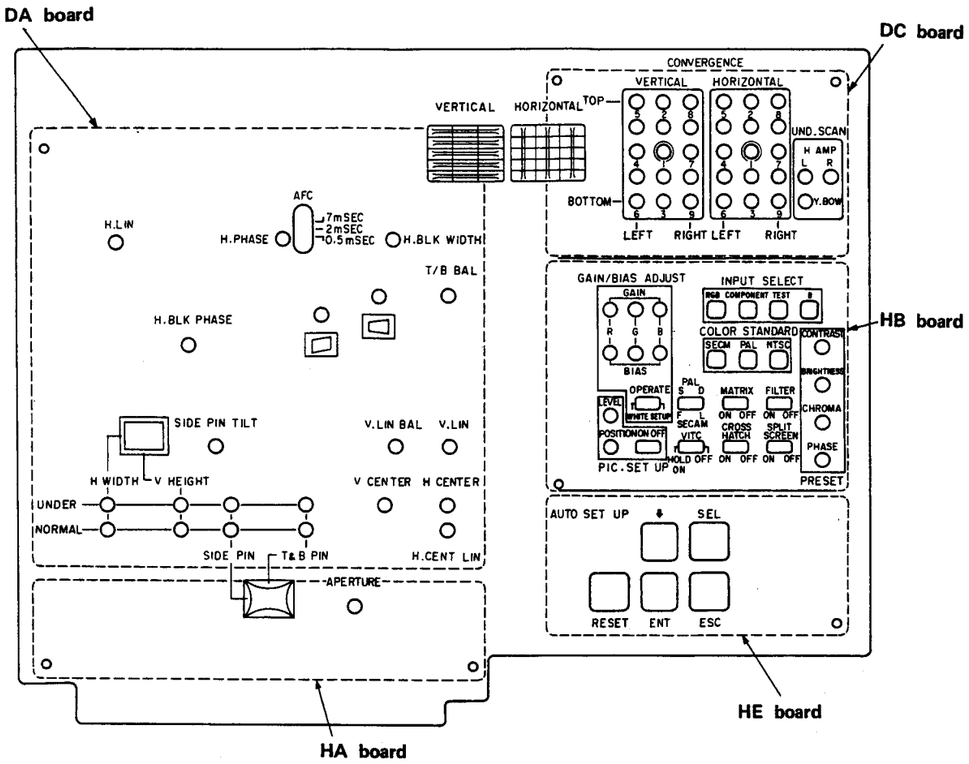
| SECTION \ BOARD | BA | BD | BM | BG | BH | BI | BJ | BK | DA | DB | EA | DC | BR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CIRCUIT DESCRIPTION | 3-1 | 3-17 | 3-19 | 3-3 | 3-5 | 3-7<br>3-15 | 3-9 | 3-13<br>3-15 | 3-29 | 3-25<br>3-27 | 3-33 | 3-25 | 3-41 |
| ADJUSTMENTS | 4-21<br>4-25 | 4-31 | | 4-21<br>4-27<br>4-49 | 4-21 | – | 4-19<br>4-30<br>4-46 | 4-47 | 4-50 | – | – | – | 4-57 |
| BLOCK DIAGRAM | 3-2 | 3-18 | 3-20 | 3-4 | 3-6 | 3-8 | 3-10 | 3-14 | 3-31 | 3-26 | 3-34 | 3-26 | 3-41 |
| MOUNTING DIAGRAM | 5-15 | 5-23 | | 5-25 | 5-33 | 5-35 | 5-43 | 5-45 | 5-53 | 5-55 | 5-66 | 6-63 | 5-109 |
| SCHEMATIC DIAGRAM | 5-17 | 5-21 | | 5-27 | 5-31 | 5-37 | 5-41 | 5-47 | 5-51 | 5-57 | 5-69 | 5-61 | 5-107 |
| ELECTRICAL PARTS LIST | 7-1 | 7-3 | | 7-7 | 7-10 | 7-11 | 7-14 | 7-16 | 7-20 | 7-24 | 7-27 | 7-26 | 7-18 |

| SECTION \ BOARD | EB | GA | GB | C | PA | PB | HA | HB | HC | HD | XB | RA | QD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CIRCUIT DESCRIPTION | 3-21 | 3-23 | 3-23 | – | 3-35 | – | – | – | – | – | – | 3-37 | 3-40 |
| ADJUSTMENTS | – | – | – | – | – | – | – | 4-18<br>4-21 | – | – | – | – | – |
| BLOCK DIAGRAM | 3-22 | 3-24 | 3-24 | – | 3-36 | – | – | – | – | – | – | 3-37 | 3-40 |
| MOUNTING DIAGRAM | 5-68 | 5-73 | 5-72 | 5-78 | 5-79 | 5-78 | 5-86 | 5-86 | 5-85 | 5-85 | 5-85 | 5-97 | 5-113 |
| SCHEMATIC DIAGRAM | 5-69 | 5-75 | 5-76 | 5-82 | 5-81 | 5-82 | 5-88 | 5-87 | 5-87 | 5-88 | 5-88 | 5-99 | 5-111 |
| ELECTRICAL PARTS LIST | 7-28 | 7-29 | 7-32 | 7-20 | 7-34 | 7-36 | 7-32 | 7-33 | 7-33 | 7-33 | 7-43 | 7-39 | 7-37 |

| SECTION \ BOARD | Y | GC | QA | V | W | TA | TB | Z | HE | QB | HF | RB | QE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CIRCUIT DESCRIPTION | – | – | 3-1 | – | – | – | – | – | – | 3-1 | – | 3-38 | 3-39 |
| ADJUSTMENTS | – | – | – | – | – | – | – | – | – | – | – | – | – |
| BLOCK DIAGRAM | – | – | 3-2 | – | – | – | – | – | – | 3-2 | – | 3-38 | 3-39 |
| MOUNTING DIAGRAM | 5-85 | 5-93 | 5-93 | 5-94 | 5-94 | 5-7 | 5-11 | 5-119 | 5-89 | 5-93 | 5-89 | 5-103 | 5-117 |
| SCHEMATIC DIAGRAM | 5-88 | 5-95 | 5-95 | 5-96 | 5-95 | 5-9 | 5-13 | – | 5-92 | 5-96 | 5-91 | 5-105 | 5-116 |
| ELECTRICAL PARTS LIST | 7-43 | 7-32 | 7-36 | 7-42 | 7-43 | 7-42 | 7-42 | – | 7-33 | 7-36 | 7-34 | 7-40 | 7-38 |

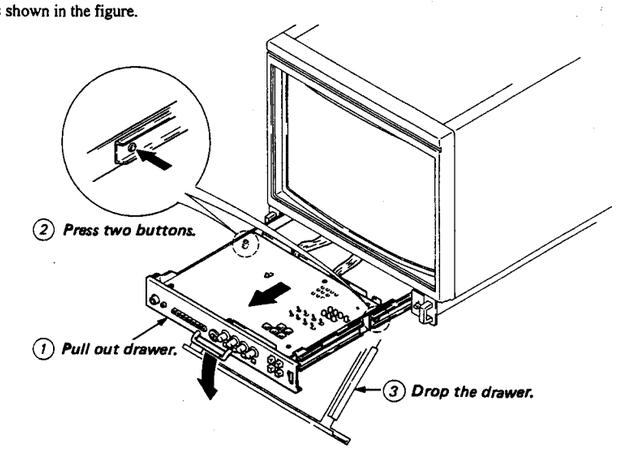


## 4-4. SUB CONTROL PANEL LOCATION




### ADJUSTING METHOD OF DRAWER BLOCK

* Pull out sub-control panel and press two stopper buttons to drop it 60° as shown in the figure.



## 4-5. SETUP ADJUSTMENT IN CASE OF PICTURE TUBE REPLACEMENT

When the picture tube has been replaced, make the following adjustments. Convergence and white balance are normally adjusted by the potentiometers on the sub control panel.
(Refer to pages 4-6, 4-7, 4-8 and 4-9)

**[Jigs Tools and Measurement Equipment Required]**

1. SIGNAL GENERATOR (TEKTRONIX 1411 and 1412 Series)
2. COLOR ANALYZER
3. LUMINANCE METER

**[Landing adjustment]**

1. Connect signal generator and receive a white signal.
2. Set BRIGHTNESS and CONTRAST VRs to the preset position (⊓).
3. Face the CRT screen toward East (or West) and press the DEGAUSS switch.
4. Set the purity knob to mechanical center as shown in Fig.1-1.

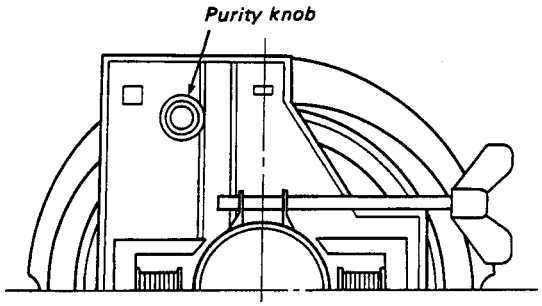



*Fig. 1-1.*

5. Slide DY (Deflection Yoke) as far forward as possible.
6. Set the neck assembly in the position shown in Fig. 1-2.

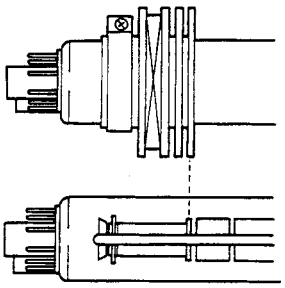


*Fig. 1-2.*

7. Set the screen to green only (R and B on the FRONT PANEL are in the IN position and G in the OUT position).
8. Turn purity knob as shown in Fig. 1-3 to bring the green on the center of the screen.

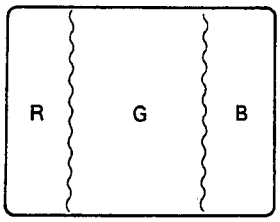



*Fig. 1-3.*

9. Slide DY back for uniform green raster.
10. Make the screen red only (G and B on the FRONT PANEL are in the IN position and R in the OUT position) and check landing.
11. Make the screen blue only (R and G on the FRONT PANEL are in the IN position and B in the OUT position) and check landing.
12. Adjust DY tilt and tighten DY set-screw.
13. Secure the DY with the spacers. (Fig. 1-4)

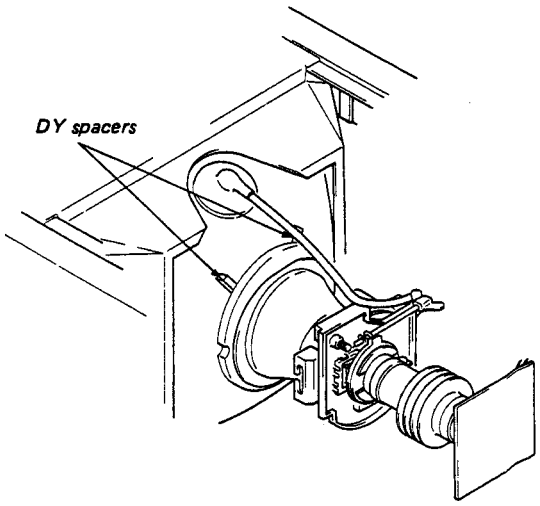
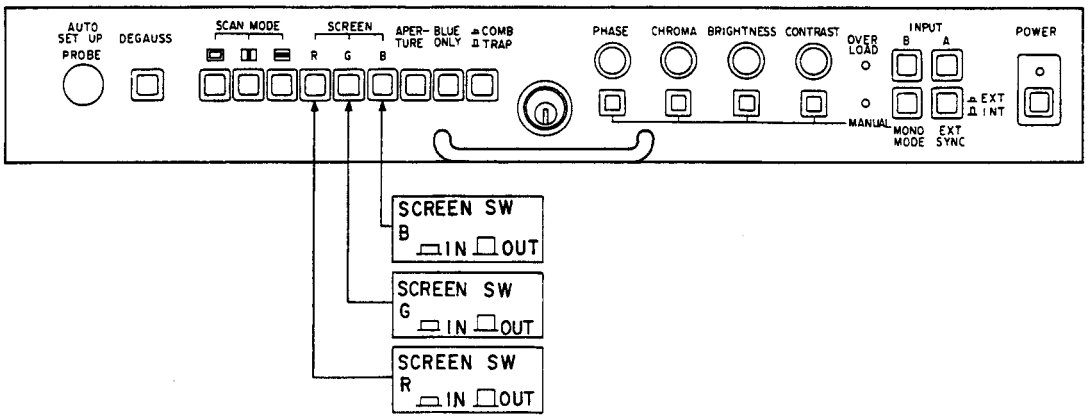



*Fig. 1-4.*

- **Final check**

  After adjustments, check that there is no mislanding by facing the CRT towards East, West, North and South directions.

**FRONT PANEL**



[Focus adjustment]

1. Connect signal generator (TEKTRONIX 1411 and 1412).
2. Input a dot or cross-hatch signals.
3. Adjust the FOCUS control for best focus in the central portion of the screen as shown in Fig. 1-5.

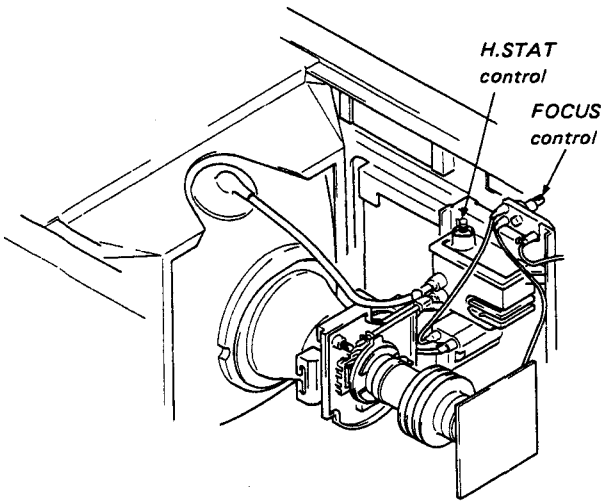



*Fig. 1-5.*

[Convergence Adjustment]

**Preparation**

1. Complete the signal generator connection and feed the dot and cross-hatch signals.
2. Set the CONTRAST and BRIGHTNESS controls at the points where the dots and the cross-hatch can be observed clearly.
3. Set the H. STATIC CENTER control (RV23) on the DC board to mechanical center as shown in Fig. 1-6.

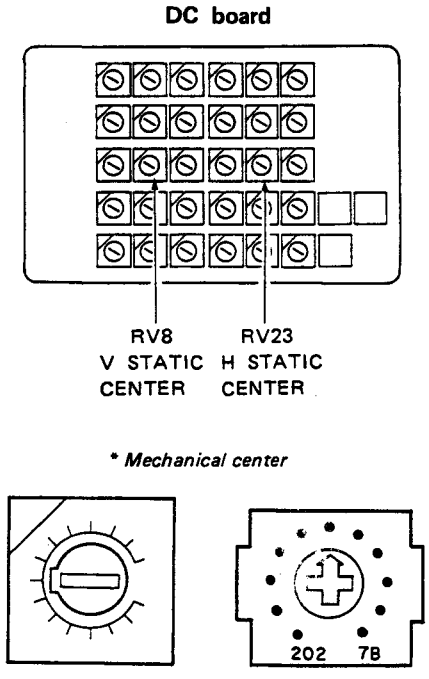



*Fig. 1-6.*

[Static Convergence]

- **Horizontal Static Convergence**

1. Adjust H. STAT control of DCT BLOCK to match the convergence of red and green in the horizontal direction at screen center.
2. Perform the HMC correction when blue is out of convergence in the same direction on all over the screen.
3. Move the BMC magnet to correct H. static convergence as shown in Fig. 1-7.

- **Vertical Static Convergnce**

1. Adjust the V. STATIC CENTER (RV8) on the DC board to match the convergence of red and green in the vertical direction at screen center.
2. When blue is out of the convergence in the same direction all over the screen, perform the VMC correction.
3. Move the BMC magnet to correct static convergence as shown in Fig. 1-7.

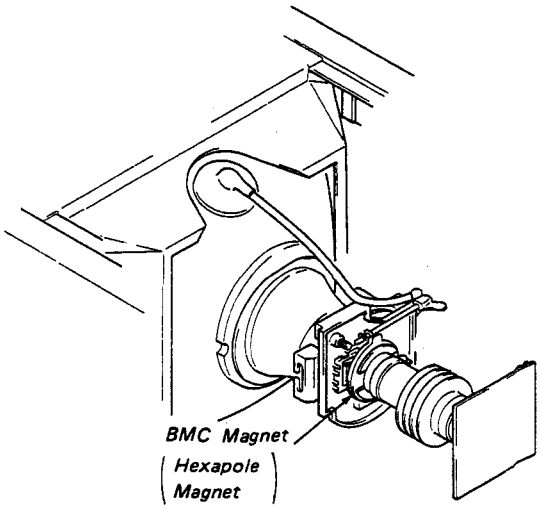



*Fig. 1-7.*

- **HMC and VMC correction for BMC Magnet.**

1. HMC (Horizontal, Mis, convergence) correction and motion of the Electron Beam with the Hexapole Magnet.

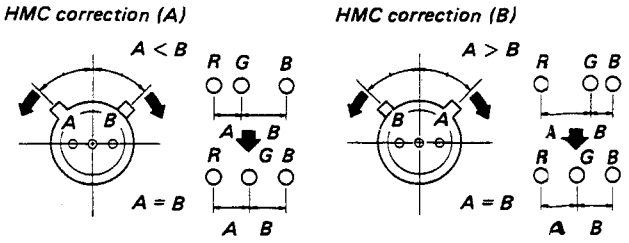



*Fig. 1-8.*

2. VMC (Vertical, Mis, convergence) correction and motion of the Electron Beam with the Hexapole Magnet.

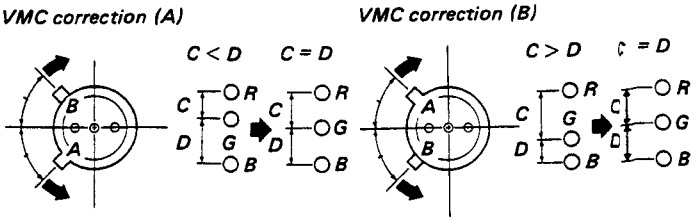



*Fig. 1-9.*

[DYNAMIC CONVERGENCE]

1. Adjust CONVERGENCE controls (RV1 ~ RV30) on the DC board as shown in Fig. 1-10.
2. It can be adjusted as Red and Blue move in symmetry to the Green. (Green does not move)
3. Adjust the convergence corresponding to the portion of the screen as follows.
4. Always match the convergence in the order of center → on Y axis → on X axis → corner against the screen.

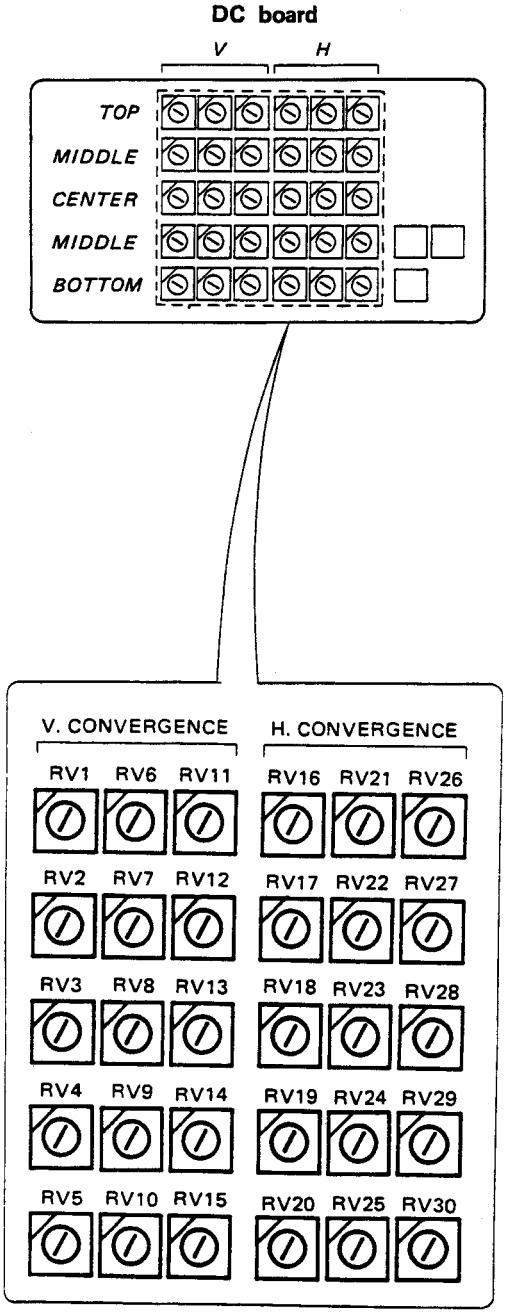



*Fig. 1-10.*

[CONVERGENCE PROCESS]

1. UNDER SCAN switch . . . . . NOR (□)
2. Adjust RV23 and RV8 on the DC board to coincide with R, G and B dots at the center of the screen as shown in Fig. 1-11.

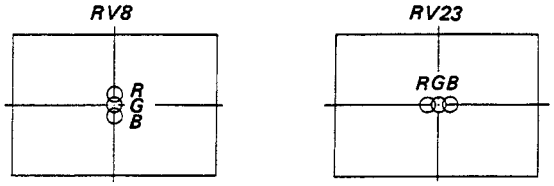



*Fig. 1-11.*

3. Adjust RV6, RV10, RV21 and RV25 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-12.

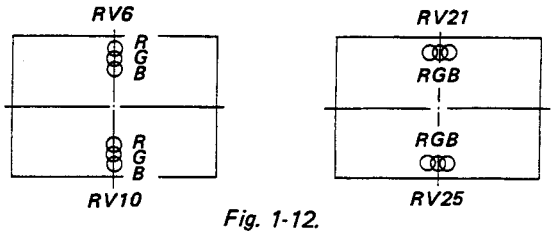



*Fig. 1-12.*

4. Adjust RV3, RV13 and RV18, RV28 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-13.

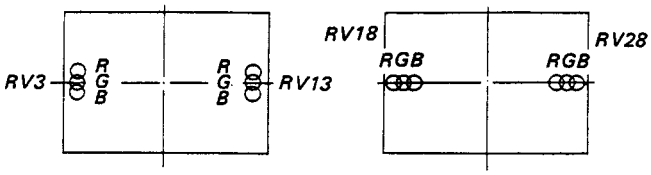



*Fig. 1-13.*

5. Adjust RV1, RV5 and RV11, RV15 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-14.

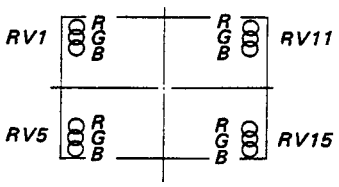



*Fig. 1-14.*

6. Adjust RV16, RV20 and RV26, RV30 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-15.

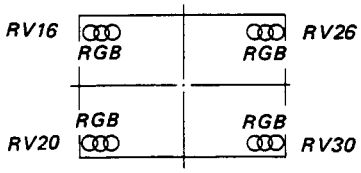



Fig. 1-15.

7. Adjust RV7, RV9 and RV22, RV24 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-16.

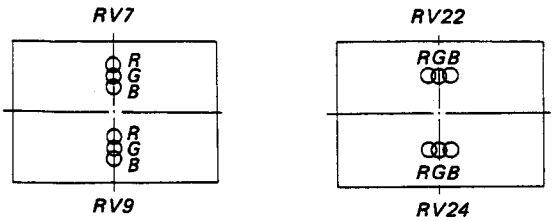



Fig. 1-16.

8. Adjust RV2, RV4 and RV12, RV14 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-17.

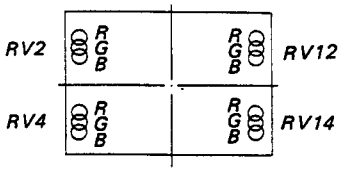



Fig. 1-17.

9. Adjust RV17, RV19 and RV27, RV29 on the DC board to coincide with the R, G and B dots as shown in Fig. 1-18.

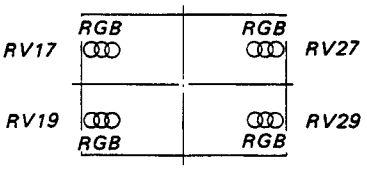



Fig. 1-18.

10. UNEDR SCAN switch . . . . . UNDER (⏥ )
11. Adjust RV31 (UNDER SCAN Y. BOW) on the DC board to coincide with the R, G and B dots as shown in Fig. 1-19.

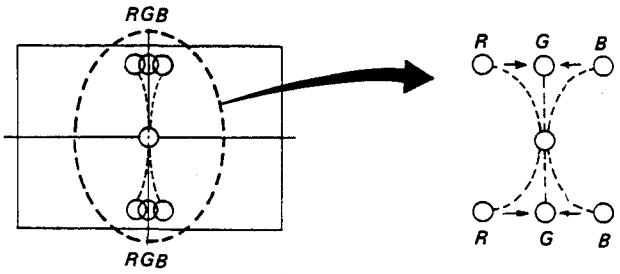



Fig. 1-19.

12. Adjust RV32 and RV33 (UNDER SCAN H. AMP) on the DC board to coincide with the R, G and B dots as shown in Fig. 1-20.

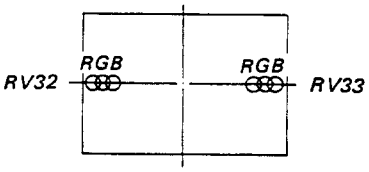
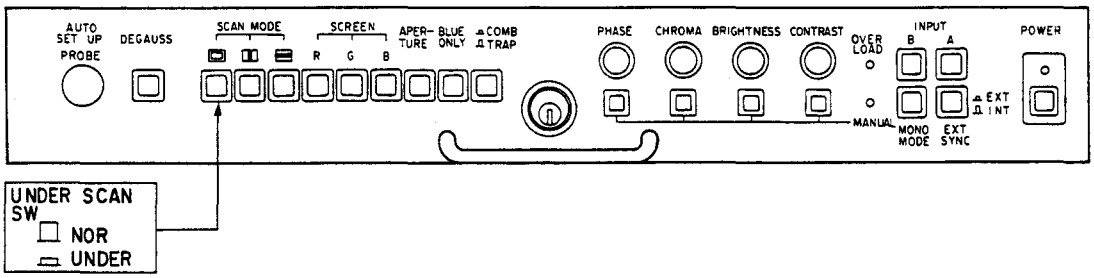
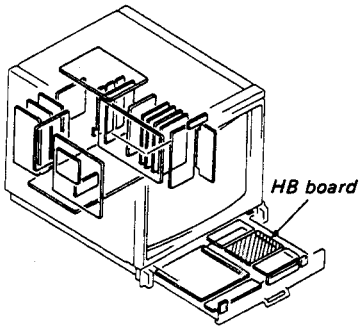


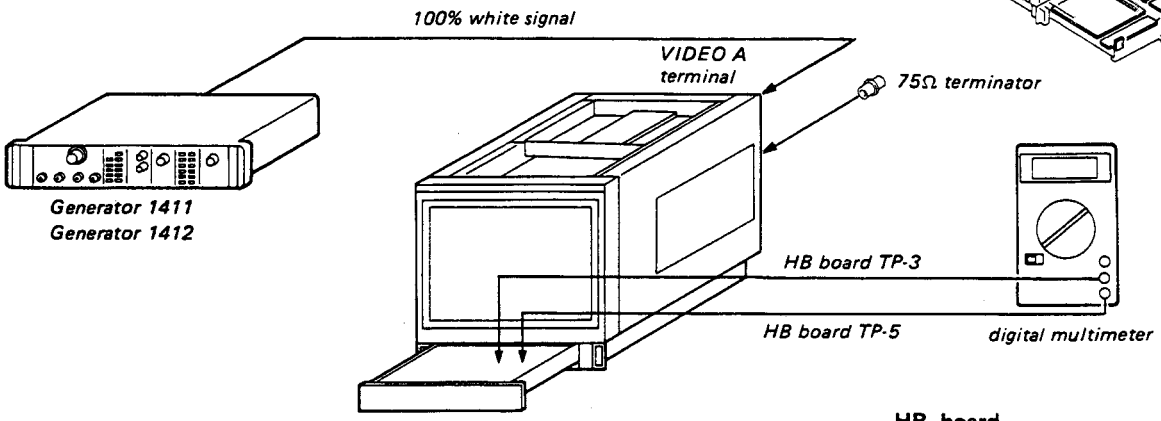

Fig. 1-20.

**FRONT PANEL**



## WHITE BALANCE ADJUSTMENT

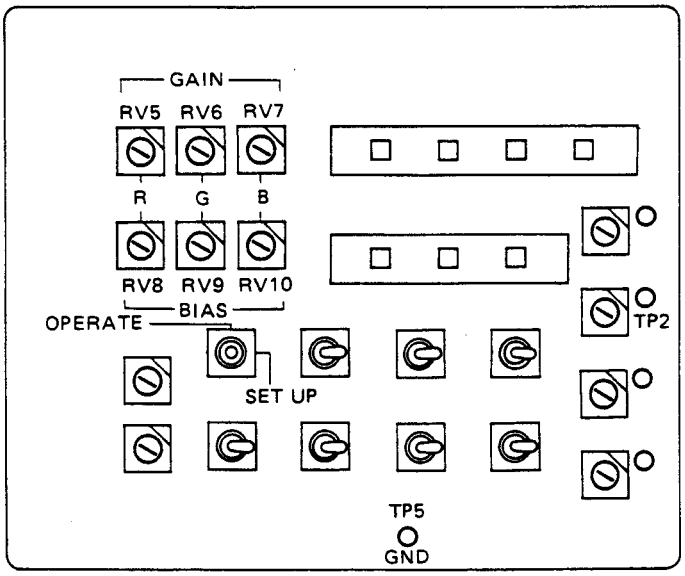



1. Input 100% white signal to VIDEO A connector.
2. WHITE/OPERATE/SET UP switch . . . . . .SET UP.
3. Connect the digital multimeter between the mechanical center of the RV2 and GND on the HD board. *1
4. BRIGHTNESS MANUAL switch ..... MANUAL. (⏏)
5. Adjust with the BRIGHTNESS control so that the voltage of the digital multimeter becomes –0.7 vdc.
6. Turn BIAS controls (RV8:Red,RV9:Green,RV10:Blue)on the HB board to adjust the BRIGHTNESS to 0.5NIT and white balance using COLOR ANALYZER and check 0.5NIT by LUMINANCE METER.
7. BRIGHTNESS MANUAL switch . . . . . .PRESET (⏍)
8. WHITE/OPERATE/SET UP switch . . . . . OPERATE.
9. Turn GAIN controls (RV5: Red,RV6: Green, RV7:Blue) on the HB board to adjust the BRIGHTNESS at HIGH LIGHT to 103 NIT and white balance using COLOR ANALYZER and check 103 NIT by LUMINANCE METER.
10. Repeat procedure steps 4 to 9 if necessary.

*1 HD board is replaced by HG board from the serial No. shown below.
In this case, connect the digital multimeter between the TP1 and GND on the HG board.

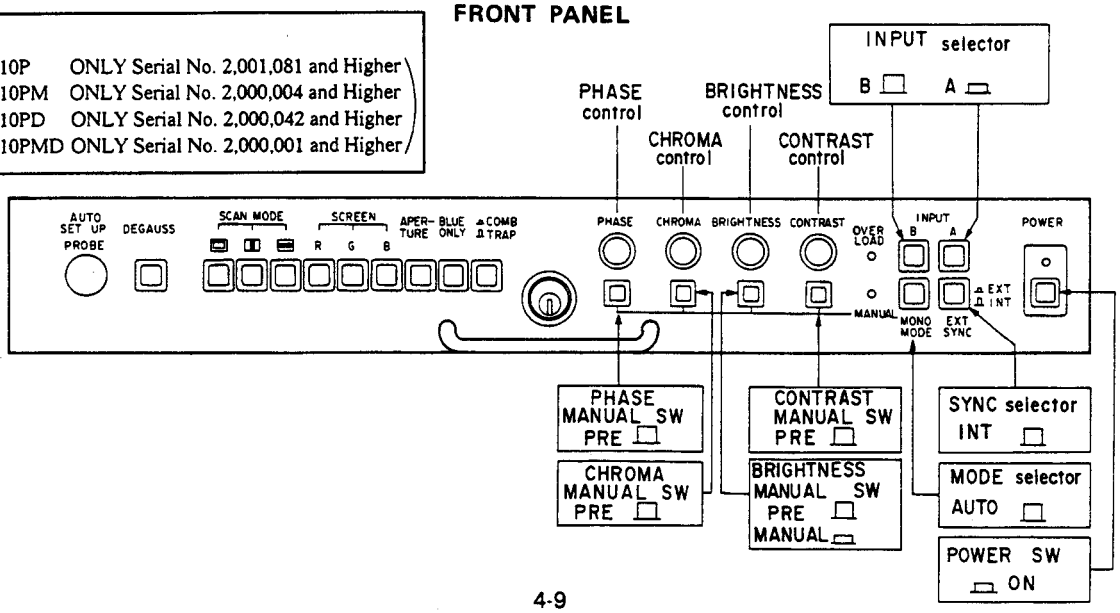
**HB board**




HG board:

| | |
|---|---|
| BVM-2010P | ONLY Serial No. 2,001,081 and Higher |
| BVM-2010PM | ONLY Serial No. 2,000,004 and Higher |
| BVM-2010PD | ONLY Serial No. 2,000,042 and Higher |
| BVM-2010PMD | ONLY Serial No. 2,000,001 and Higher |

**FRONT PANEL**



## 4-6. SAFETY RELATED ADJUSTMENTS

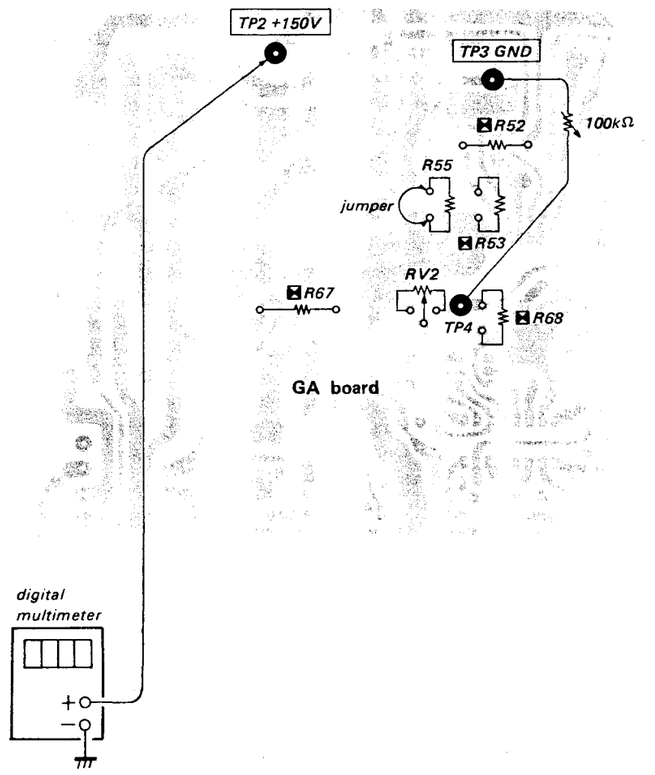
### B+ PROTECTOR (R52, R53)

When replacing the following components (marked ◪ on the schematic diagram), make this confirmation.

◪ GA Board . . Q13, Q14, R52, R53
GB Board . . D5, D6, D7, D8, Q3, Q4, Q5, R4, R5, R19, R20, R21, R22

It is necessary to use a digital multimeter for this confirmation.
Connect a digital multimeter to TP2 on GA Board.

1. Receive a color bar signal and set CONTRAST and BRIGHTNESS controls to preset position. (manual button is out ⎍ )
2. Short-circuit R55 on GA Board.
3. Connect a 100kΩ variable resistor between TP4 and TP3 (GND) on GA board.
4. Confirm that the reading on the digital multimeter drops abruptly from +182.0V ~ +216.0V to 0V by turning the 100kΩ variable resistor so that the value of the resistor decrease from maximum value.
5. If step 4 isn't satisfied, select resistance values of R52 and R53 which satisfy the specifications.
6. Restore these to their original states and confirm that the voltage at TP2 is 150.0 ±1.0V.




### B+ MAX CONFIRMATION (R67, R68)

When replacing the following components (marked ◪ on the schematic diagram), make this confirmation.

◪ GA Board . . C59, IC3, R67, R68, R78, RV2

It is necessary to use a digital multimeter for this confirmation.
Connect a digital multimeter to TP2 on GA Board.

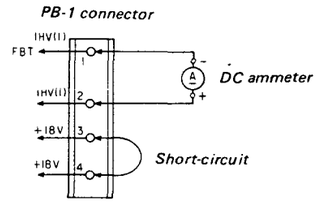
1. Receive a color bar signal and set CONTRAST and BRIGHTNESS controls to preset position. (manual button is out ⎍ )
2. Confirm that the reading on the digital multimeter is +165.0V ±13.0V when RV2 variable resistor is turned to fully clockwise.
3. If the specifications are not met, select resistance values for R67 and R68 which satisfy the specifications.
4. After confirmation, make the reading on the digital multimeter into +150.0V ±1.0V by adjusting RV2 on GA Board.

### BEAM CURRENT PROTECTOR 1 CONFIRMATION (R222)

When replacing the following components (marked ◪ on the schematic diagram), make this confirmatiojn.

PA Board . . D205, D206, D215, IC2, R201, R202, R213, R214, R220, R221, R222, R223, R224, R242
PB Board . . FBT, R1, R2, R5

1. Remove the PB-1 connector from PB board.
2. Connect a DC ammeter between Pin ① and Pin ② of the PB-1 connector and short-circuit Pin ③ and Pin ④ with a jumper.



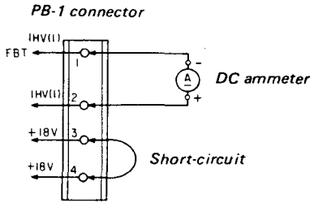

3. Connect a digital multimeter to TP2 and TP4 (GND) of PA board.
4. Select the built-in all-white signal (Set the WHITE/OPERATE/SET UP selector on HB board to WHITE). Don't do it in free run.
5. Confirm that the reading on the digital multimeter of TP2 on PA board is between +31.0V and +33.5V.
6. If the reading on the digital multimeter of TP2 is between +31.0V and +33.5V and more than 32.5V, mount a 1MΩ1/4W resistor (metal–film) should be mounted at the portion of R222 on PA board. (Normally in this portion no component is mounted.)
7. Short-circuit R231 on PA board.
8. Short-circuit C1 on BI board.
9. Rotate the BRIGHTNESS and CONTRAST controls and confirm that the raster disappears when the value indicated on the DC ammeter is 2.20mA ±0.35mA.
10. Remove the short-circuit from R231 and C1 and restore the PB-1 connector to its original state.
11. Remove the jumpers and DC ammeter and reconnect the PB-1 connector.
12. Set the BRIGHTNESS and CONTRAST controls to their maximum positions and confirm that the ABL operates (OVERLOAD Lamp Lights up).

### BEAM CURRENT PROTECTOR 2 (R239)

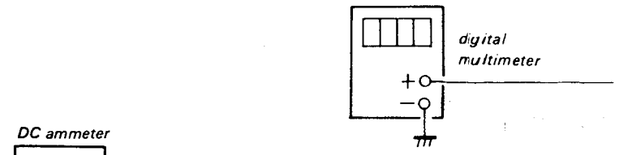
When replacing the following components (marked ◪ on the schematic diagram), make this confirmation.

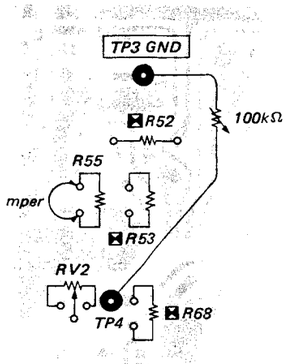
◪ PA Board . . D204, D216, R203, R204, R231, R232, R237, R238, R239, R240, R241, R247, IC3
PB Board . . R3, R4, R6, FBT

1. Remove the PB-1 connector from PB board.
2. Connect a DC ammeter between Pin ① and Pin ② of the PB-1 connector and short-circuit Pin ③ and Pin ④ with a jumper.




3. Connect a digital multimeter to TP3 and TP4 (GND) of PA board.
4. Select the built-in all-white signal (Set the WHITE/OPERATE/SET UP selector on HB board to WHITE). Don't do it in free run.
5. Confirm that the reading on the digital multimeter of TP3 on PA board is between +31.0V and +33.5V.
6. If the reading on the digiatal multimeter of TP3 is between +31.0V and +33.5V and more than 32.5V, mount a 1MΩ1/4W resistor (metal–film) should be mounted at the portion of R239 on PA board. (Normally in this portion no component is mounted.)
7. Short-circuit R213 on PA board.
8. Short-circuit C1 on BI board.
9. Rotate the BRIGHTNESS and CONTRAST controls and confirm that the raster disappears when the value indicated on the DC ammeter is 2.20mA ±0.35mA.
10. Remove the short-circuit from R213 and C1 and restore the PB-1 connector to its original state.
11. Remove the jumpers and DC ammeter and reconnect the PB-1 connector.
12. Set the BRIGHTNESS and CONTRAST controls to their maximum positions and confirm that the ABL operates (OVERLOAD lamp lights up).






ard

3. Connect a digital multimeter to TP2 and TP4 (GND) of PA board.
4. Select the built-in all-white signal (Set the WHITE/OPERATE/SET UP selector on HB board to WHITE). Don't do it in free run.
5. Confirm that the reading on the digital multimeter of TP2 on PA board is between +31.0V and +33.5V.
6. If the reading on the digital multimeter of TP2 is between +31.0V and +33.5V and more than 32.5V, mount a 1MΩ1/4W resistor (metal–film) should be mounted at the portion of R222 on PA board. (Normally in this portion no component is mounted.)
7. Short-circuit R231 on PA board.
8. Short-circuit C1 on BI board.
9. Rotate the BRIGHTNESS and CONTRAST controls and confirm that the raster disappears when the value indicated on the DC ammeter is 2.20mA ±0.35mA.
10. Remove the short-circuit from R231 and C1 and restore the PB-1 connector to its original state.
11. Remove the jumpers and DC ammeter and reconnect the PB-1 connector.
12. Set the BRIGHTNESS and CONTRAST controls to their maximum positions and confirm that the ABL operates (OVERLOAD Lamp Lights up).

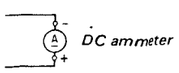
R 1

( ◪ R222)

mponents (marked ◪ on
confirmatiojn.
15, IC2, R201, R202,
20, R221, R222, R223,

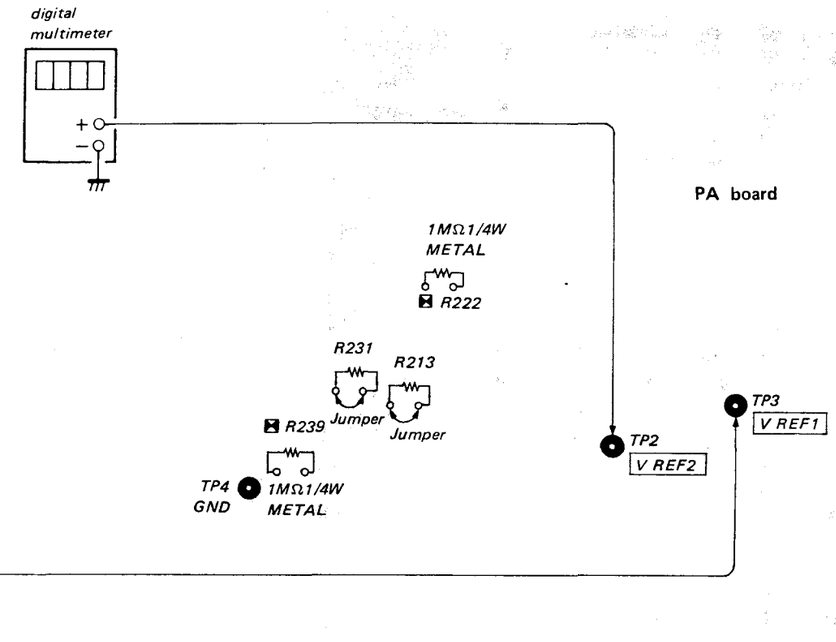
om PB board.
en Pin ① and Pin ② of
circuit Pin ③ and Pin ④

or




Short-circuit

4. Select the built-in all-white signal (Set the WHITE/OPERATE/SET UP selector on HB board to WHITE). Don't do it in free run.
5. Confirm that the reading on the digital multimeter of TP3 on PA board is between +31.0V and +33.5V.
6. If the reading on the digiatal multimeter of TP3 is between +31.0V and +33.5V and more than 32.5V, mount a 1MΩ1/4W resistor (metal–film) should be mounted at the portion of R239 on PA board. (Normally in this portion no component is mounted.)
7. Short-circuit R213 on PA board.
8. Short-circuit C1 on BI board.
9. Rotate the BRIGHTNESS and CONTRAST controls and confirm that the raster disappears when the value indicated on the DC ammeter is 2.20mA ±0.35mA.
10. Remove the short-circuit from R213 and C1 and restore the PB-1 connector to its original state.
11. Remove the jumpers and DC ammeter and reconnect the PB-1 connector.
12. Set the BRIGHTNESS and CONTRAST controls to their maximum positions and confirm that the ABL operates (OVERLOAD lamp lights up).



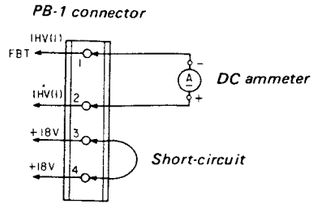

## BEAM CURRENT PROTECTOR 2 ( ◪ R239)

When replacing the following components (marked ◪ on the schematic diagram), make this confirmation.

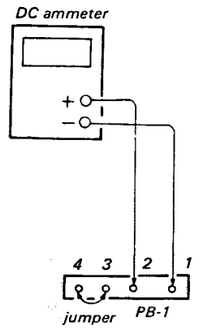
◪ PA Board . . D204, D216, R203, R204, R231, R232, R237, R238, R239, R240, R241, R247, IC3

PB Board . . R3, R4, R6, FBT

1. Remove the PB-1 connector from PB board.
2. Connect a DC ammeter between Pin ① and Pin ② of the PB-1 connector and short-circuit Pin ③ and Pin ④ with a jumper.




3. Connect a digital multimeter to TP3 and TP4 (GND) of PA board.




PB board

BI board



## HIGH VOLTAGE HOLD DOWN ADJUSTMENT AND CONFIRMATION

( ⊠ R227, R228)

When replacing the following components (marked ◪ on the schematic diagram), make this adjustment.

◪ DCT block

PA Board . .D205, D207, D215, IC2, R201, R202, R213, R214, R225, R226, R227, R228, R243, R245

It is necessary to use an electrostatic voltmeter or equivalent for this adjustment. Connect the electrostatic voltmeter to the anode cap.

Even though an electrostatic voltmeter may not be used, connect digital multimeter to ⑦ pin of IC4 on PA Board.

**In case of using an electrostatic voltmeter**

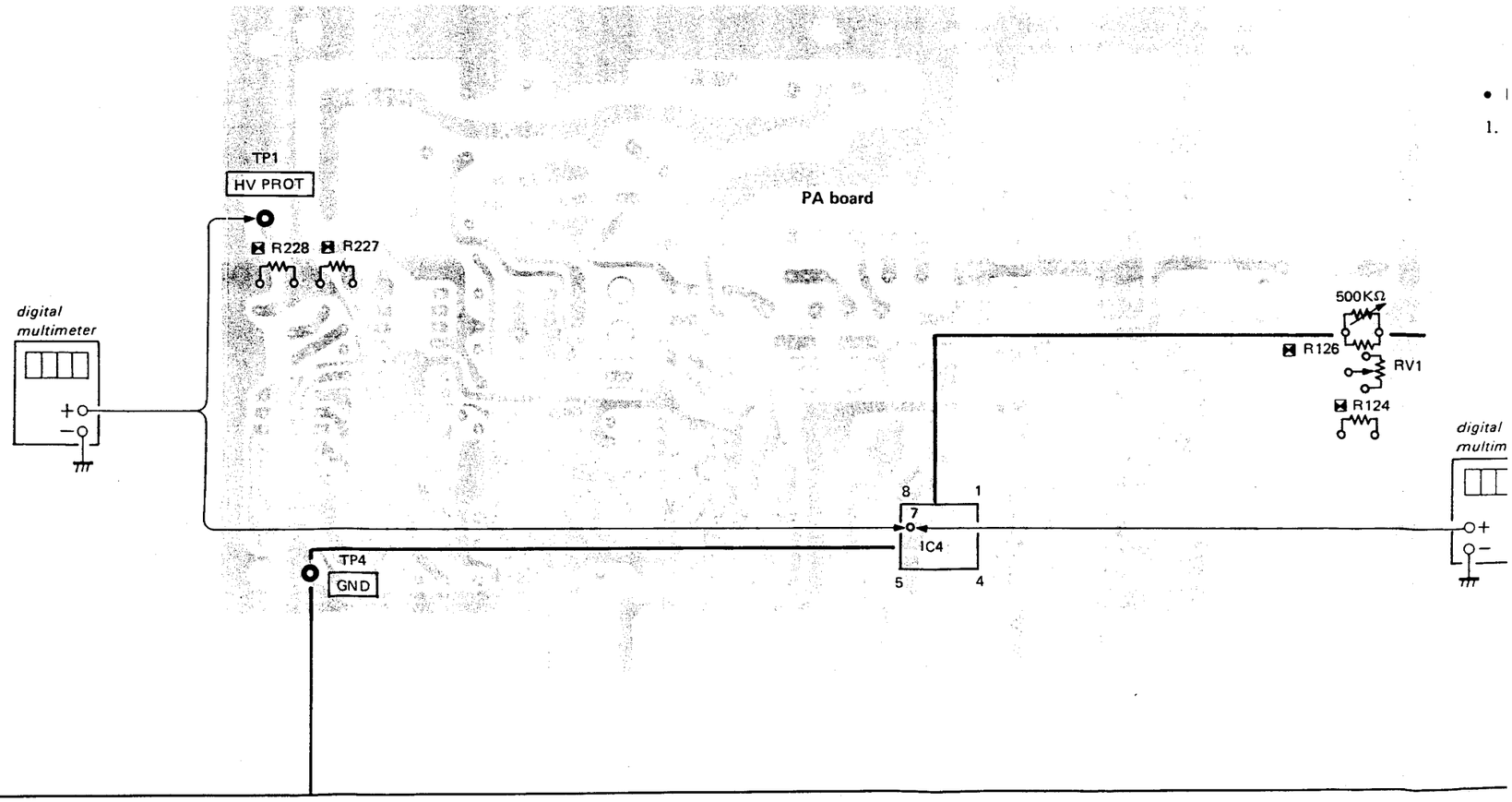
1. Connect the electrostatic voltmeter to the anode cap and connect a digital multimeter to TP1 and TP4 (GND) on PA board.

**Note:** Use an electrostatic multimeter which is calibrated and which has $2 \times 10^9 \Omega$ or more input impedance. (Example: ESH-27X or ESH-23X of the SINGER COMPANY)
Use a digital multimeter which has 4 digits or more.

2. Receive a color bar signal and set the CONTRAST and BRIGHTNESS controls to the preset positions. (manual switch is OUT⊓_)
3. Determine the values of R227 and R228 as to get voltage of 9.55 ±0.13V at TP1.
4. Connect 500kΩ variable resistor with R126 in parallel on PA board.
5. Confirm that the reading on the electrostatic voltmeter drops abruptly from 28.0kV ~ 30.0kV to 0V by turning slowly the 500kΩ variable resistor so that the value of the resistor decrease from maximum value.
6. Remove the 500kΩ variable resistor from R126 and confirm again that the voltage of the anode is 27.0kV ±0.1kV.

**In case of not using an electrostatic voltmeter** (using a digital multimeter.)

1. Connect the digital multimeter to TP1 and TP4 (GND) and to Pin ⑦ of IC4 and TP4 (GND).
2. Receive a color bar signal and set the CONTRAST and BRIGHTNESS controls to the preset positions.
3. Determine the values of R227 and R228 as to get voltage of 9.40 ±0.13V at TP1.
4. Connect 500kΩ variable resistor with R126 in parallel on PA board.
5. Confirm that the raster disappears when the voltage at Pin ⑦ of IC4 reaches 9.40 ±0.13V by turning slowly the 500kΩ variable resistor so that the value of the resistor decrease from maximum value.
6. Remove the 500kΩ variable resistor from R126.



**of not using an electrostatic voltmeter** (using a ıltimeter.)

ect the digital multimeter to TP1 and TP4 (GND) o Pin ⑦ of IC4 and TP4 (GND).

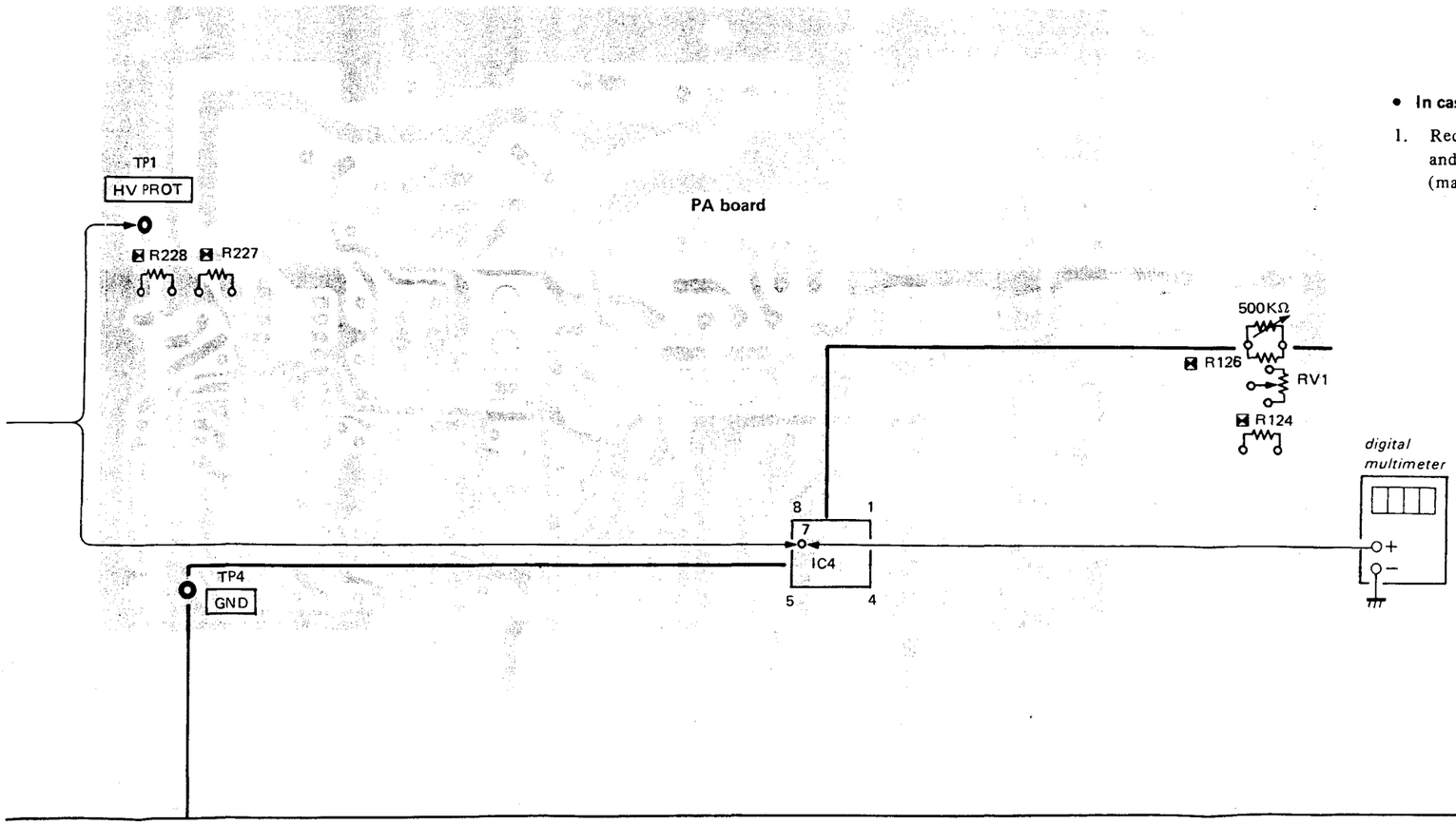
ive a color bar signal and set the CONTRAST and ;HTNESS controls to the preset positions.

·mine the values of R227 and R228 as to get vol- ›f 9.40 ±0.13V at TP1.

ect 500kΩ variable resistor with R126 in parallel ۱ board.

rm that the raster disappears when the voltage at ⑦ of IC4 reaches 9.40 ±0.13V by turning slowly 00kΩ variable resistor so that the value of the re- decrease from maximum value.

›ve the 500kΩ variable resistor from R126.






## HIGH VOLTAGE REGULATOR CONFIRMATION

( ◪ R124, R126)

When replacing the following components (marked ◪ on the schematic diagram), make this adjustment.

◪ DCT block
PA Board . . D216, IC1, IC4, R123, R124, R125, R126, R136, R137, R138, R203, R204, RV1

It is necessary to use an electrostatic voltmeter or equivalent for this adjustment. Connect the electrostatic voltmeter to the anode cap.
Even though an electrostatic voltmeter may not be used, connect digital multimerter to ⑦ pin of IC4 on PA Board.

**Note:** Use an electrostatic voltmeter which is calibrated, and which has $2 \times 10^9 \Omega$ or more input impedance.

example: ESH-27X or ESH-23X of the SINGER COMPANY

Use a digital multimeter which has 4 digit or more.

- **In case of using an electrostatic voltmeter**

1. Receive a color bar signal and set CONTRAST and BRIGHTNESS controls to preset position. (manual switch is out ⎍ )
2. Turn RV1 on the PA Board for a maximum reading on the electrostatic voltmeter. (Fully clockwise)
3. Confirm that the indicated value on the electrostatic voltmeter is 27.40kV ±0.1kV at this time.
4. If necessary, select the value of R124 and R126 (1/4W metal-film) and repeat above step 2 through 4.
5. After confirmation, adjust RV1 for 27.0kV ±0.1kV on the electrostatic voltmeter.

- **In case of using a digital multimeter**

1. Receive a color bar signal and set CONTRAST and BRIGHTNESS controls to preset position. (manual switch is out ⎍ )
2. Connect the digital multimeter to Pin ⑦ of IC4 and TP4 (GND) on PA board.
3. Set RV1 on PA board to its mechanical center.
4. Select resistance values for R124 and R126 which provide a voltage reading of 8.75V ±0.1V at Pin ⑦ of IC4 and mount.

## 4-7. CIRCUIT ADJUSTMENTS

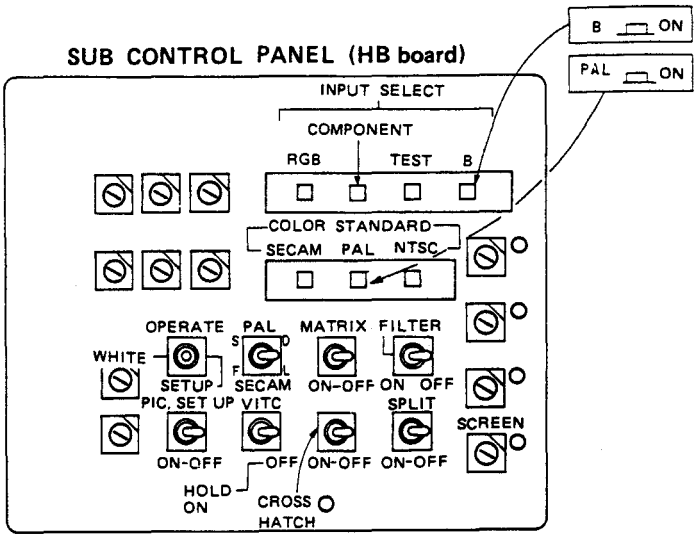
- To make the following adjustments, unless otherwise specified, the controls knobs and switches shall be preset as described below.

FRONT PANEL

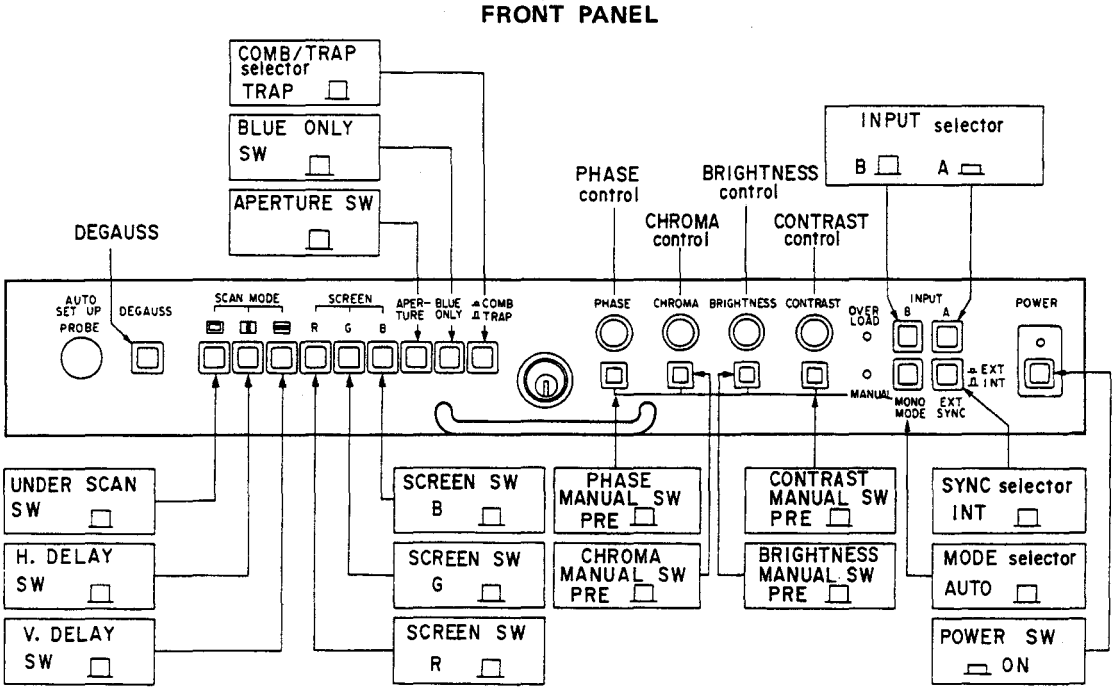
| | | | |
|---|---|---|---|
| 1. | INPUT selector | A | HC board |
| 2. | SYNC selector | INT | |
| 3. | MODE selector | AUTO | |
| 4. | CONTRAST MANUAL switch | PRESET | HG board (HD) |
| 5. | BRIGHTNESS MANUAL switch | PRESET | |
| 6. | CHROMA MANUAL switch | PRESET | |
| 7. | PHASE MANUAL switch | PRESET | |
| 8. | SCAN MODE switch | | HA board |
| | UNDER SCAN | NOR | |
| | H. DELAY | NOR | |
| | V. DELAY | NOR | |
| 9. | SCREEN switch (R) | NOR | |
| 10. | SCREEN switch (G) | NOR | |
| 11. | SCREEN switch (B) | NOR | |
| 12. | APT switch | NOR | |
| 13. | BLUE ONLY switch | NOR | |
| 14. | COMB/TRAP filter selector | TRAP | |

SUB CONTROL PANEL

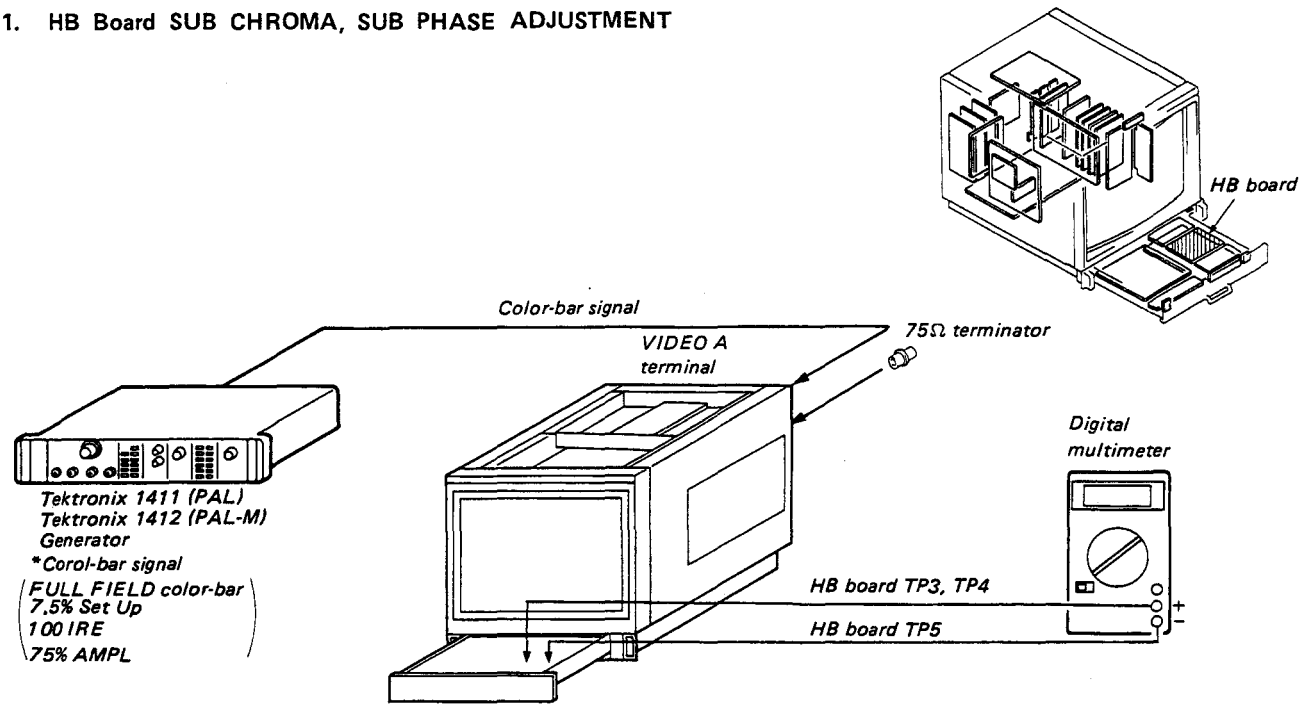
| | | | |
|---|---|---|---|
| 15. | INPUT SELECT buttons | B | HB board |
| 16. | COLOR STANDARD buttons | PAL | |
| 17. | FILTER switch | OFF | |
| 18. | MATRIX switch | OFF | |
| 19. | PAL/SECAM mode selector | D(L) | |
| 20. | WHITE/OPERATE/SET UP selector | OPERATE | |
| 21. | SPLIT SCREEN switch | OFF | |
| 22. | CROSS HATCH switch | OFF | |
| 23. | VITC switch | OFF | |
| 24. | PIC. SET UP switch | OFF | |
| 25. | AFC switch | 2m sec | DA board |



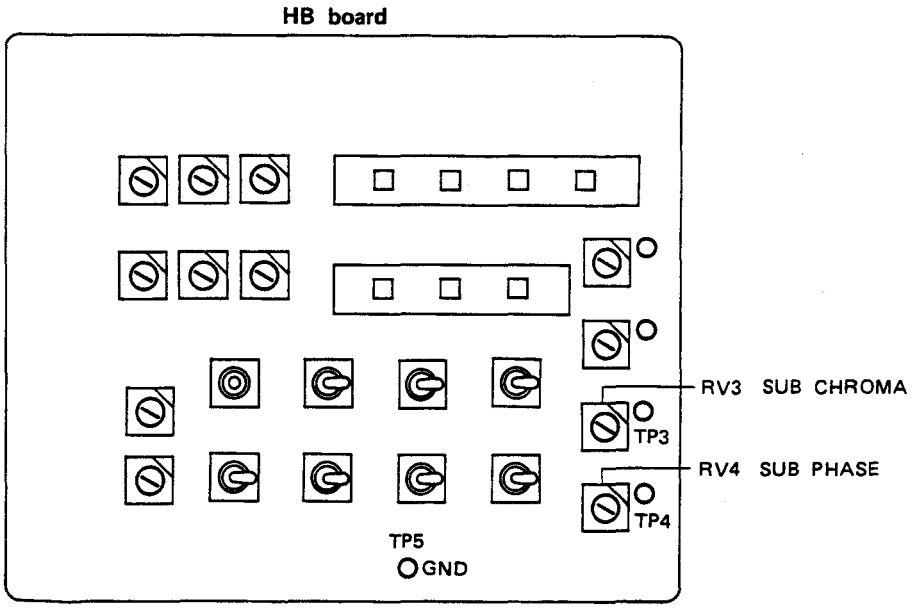


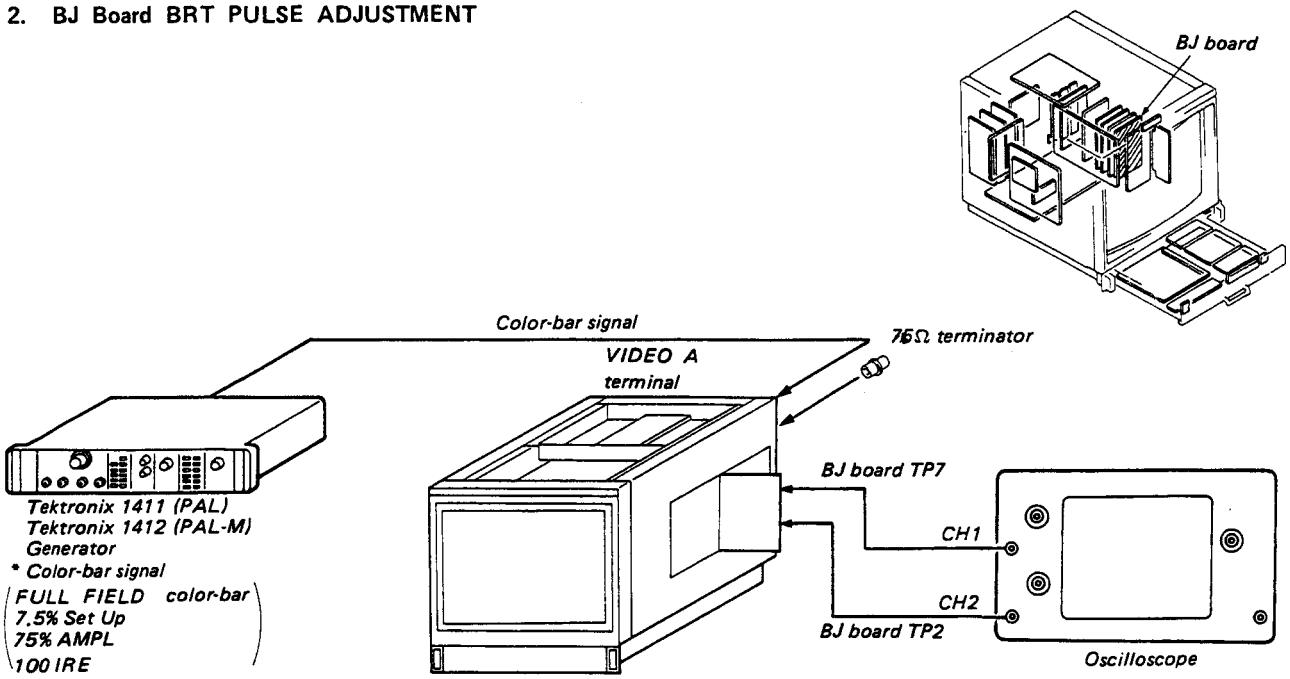
## 1. HB Board SUB CHROMA, SUB PHASE ADJUSTMENT




1. Connect a digital multimeter to the TP3 of HB board and TP5 (ground).
2. Adjust to −5.5V DC with RV3. (SUB CHROMA)
3. Connect a digital multimeter to the TP4 of HB board and TP5.
4. Adjust to 0V DC with RV4. (SUB PHASE) of HB board.



## 2. BJ Board BRT PULSE ADJUSTMENT




1. Input a color-bar signal to VIDEO A terminal of the set.
2. Connect an oscilloscope (CH1 probe) to the TP7 of BJ board and oscilloscope (CH2 probe) to the TP2 of BJ board.
3. Adjust RV7 to obtain the waveform on the oscilloscope as shown in Fig. 2-1.

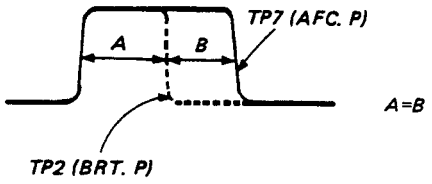
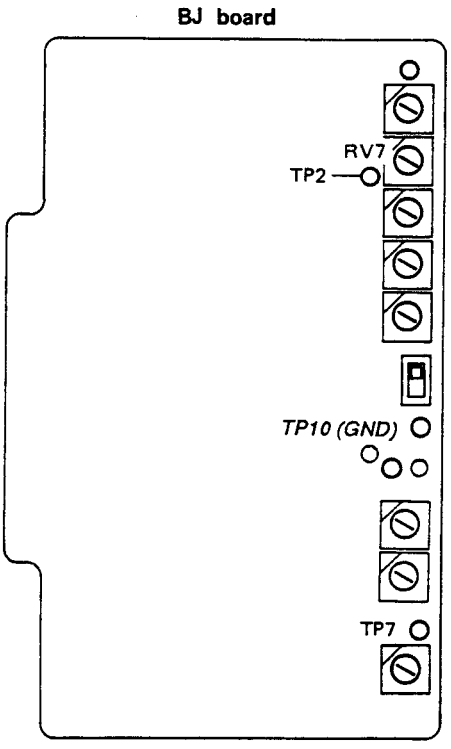
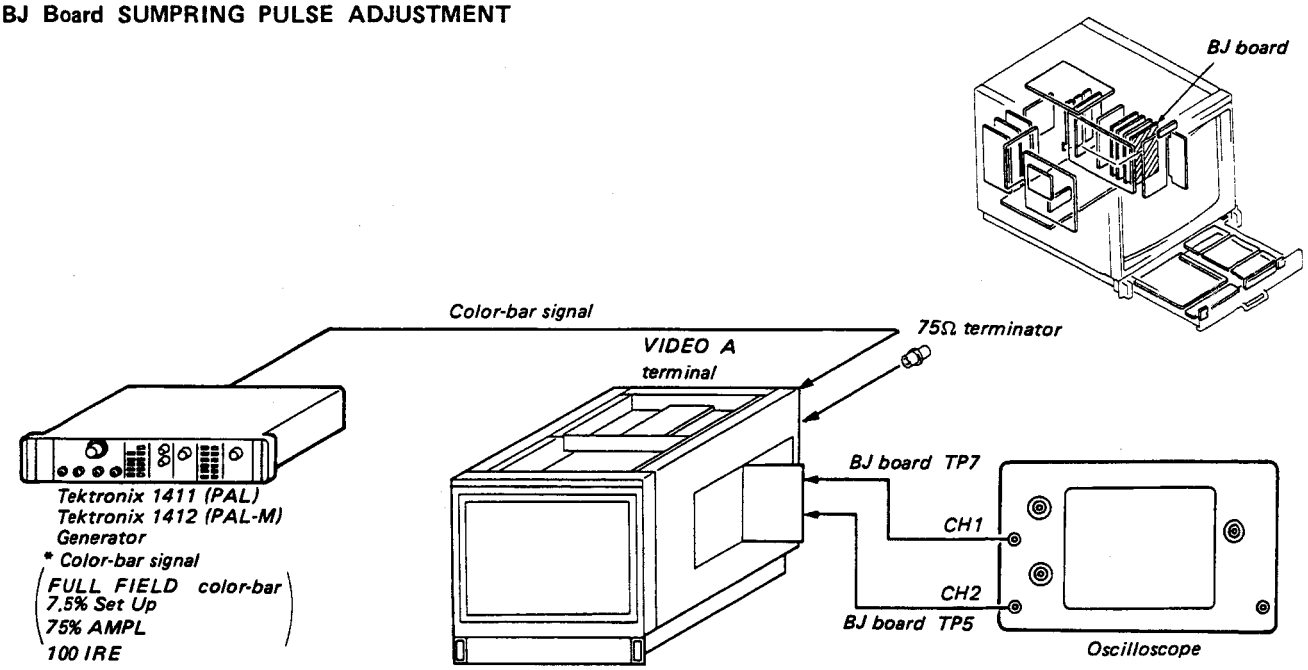



Fig. 2-1



## BJ Board SUMPRING PULSE ADJUSTMENT




1. Input a color-bar signal to VIDEO A terminal of the set.
2. Connect an osilloscope (CH 1 probe) to the TP7 of BJ board and Connect an oscilloscope (CH 2 probe) to the TP5 of BJ board.
3. Adjust RV5 to obtain the waveform on the oscilloscope as shown in Fig. 2-2.

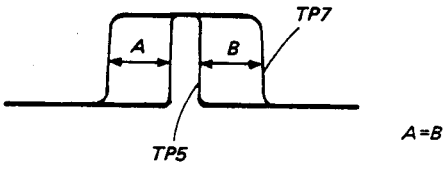
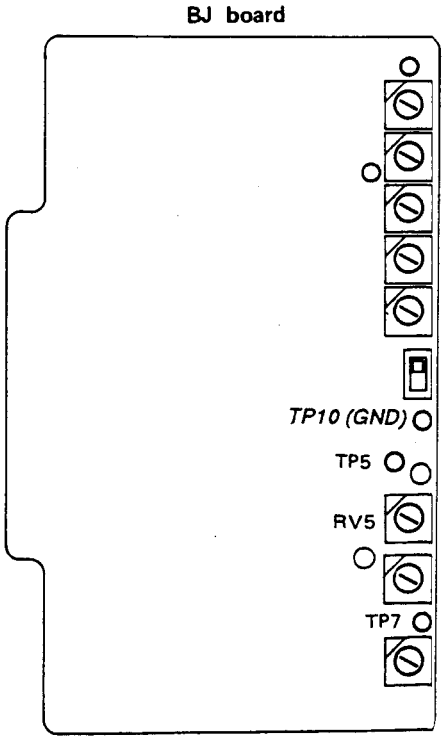
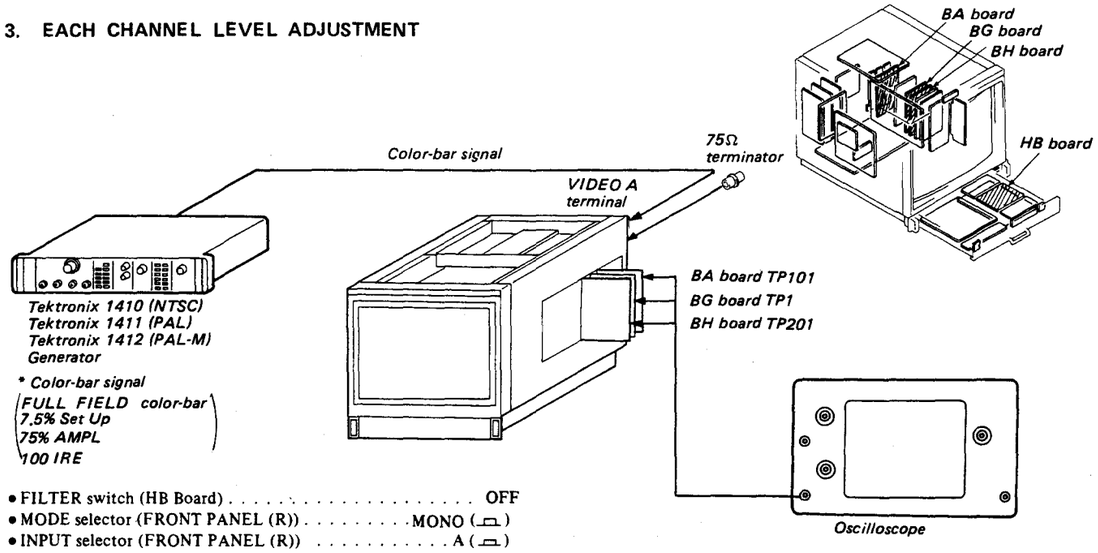



Fig. 2-2



## 3. EACH CHANNEL LEVEL ADJUSTMENT




- FILTER switch (HB Board) . . . . . OFF
- MODE selector (FRONT PANEL (R)) . . . . . MONO (⊓)
- INPUT selector (FRONT PANEL (R)) . . . . . A (⊓)

**BA board**

1. Input a color-bar signal to VIDEO A terminal to the set.
2. Connect an oscilloscope to the TP101 of BA board.
3. Adjust to 1.0Vp-p with RV101 of BA board as shown in Fig. 3-1.

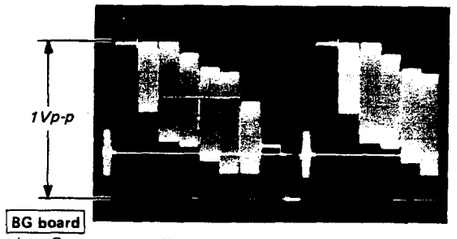



Fig. 3-1

**BG board**

4. Connect an oscilloscope to the TP1 of BG board.
5. Adjust to 1.0Vp-p with RV3 of BG board as shown in Fig. 3-1.
6. Connect an oscilloscope to the TP201 of BH board.

**HB board**

7. Adjust RV2 (SUB BRT) of HB board so that Ⓐ (black level) is 0V DC as shown in Fig. 3-2.
8. Adjust RV1 (SUB CONT) of HB board so that Ⓑ (100% white level) is -0.7V DC as shown in Fig. 3-2.

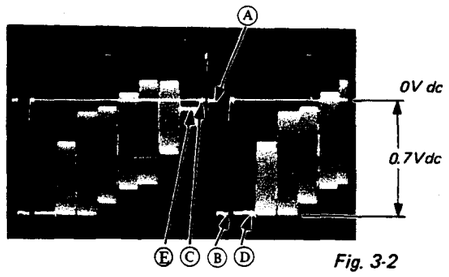



Fig. 3-2

Ⓐ . . . . . *Black.level*
Ⓑ . . . . . *100% White level*
Ⓒ . . . . . *0 IRE level*
Ⓓ . . . . . *100 IRE level*
Ⓔ . . . . . *7.5 IRE level*

**BH board**

9. S2 (BH Board) . . . . 0 IRE
   Adjust RV1 of BH board so that the Ⓒ (0 IRE level) coincides with Ⓐ (Black level) as shown in Fig. 3-3.
10. Adjust RV3 of BH board so that the Ⓓ (100 IRE level) coincides with Ⓑ (100% white level) as shown in Fig. 3-3.

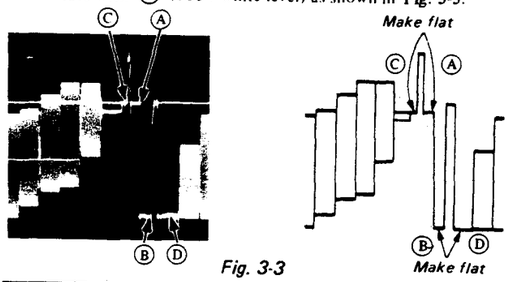



Fig. 3-3

**BH board**

11. S2 (BH Board) . . . . . 7.5 IRE
    Adjust RV2 of BH board so that the Ⓔ (7.5 IRE level) coincides with Ⓐ (Black level) as shown in Fig. 3-4.
12. Set S2 (BH Board) to 0 IRE.

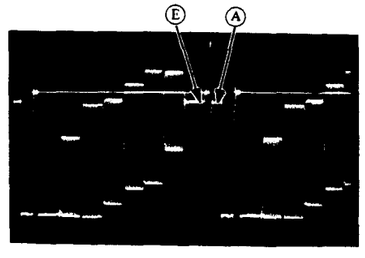
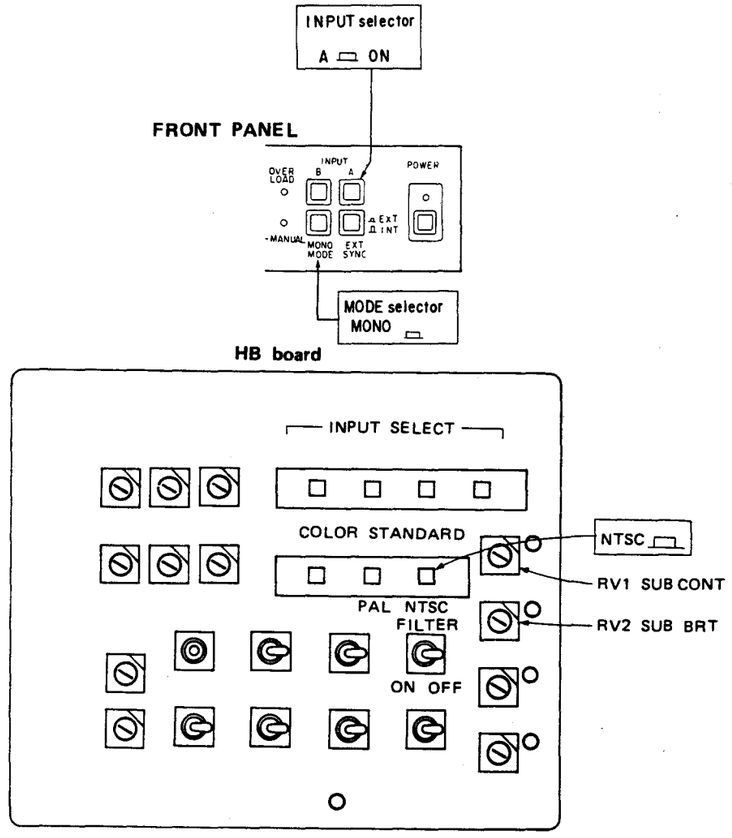
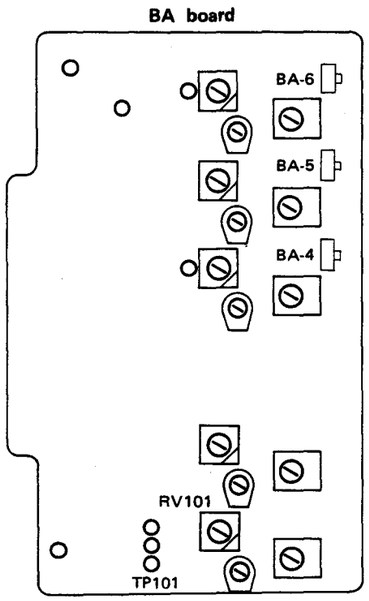
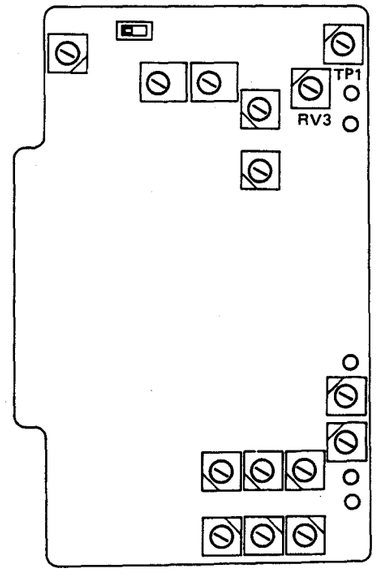


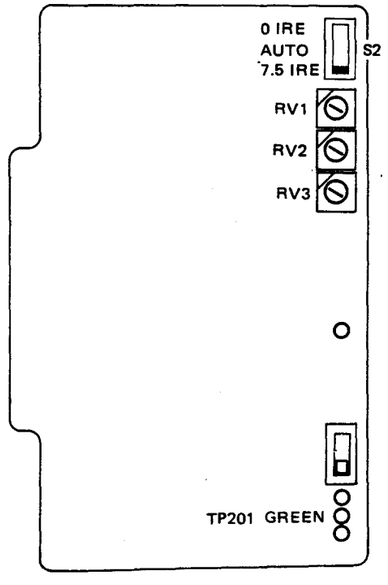
Fig. 3-4





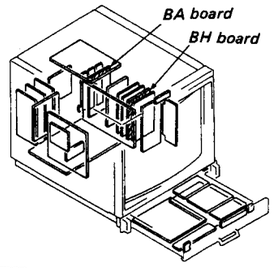



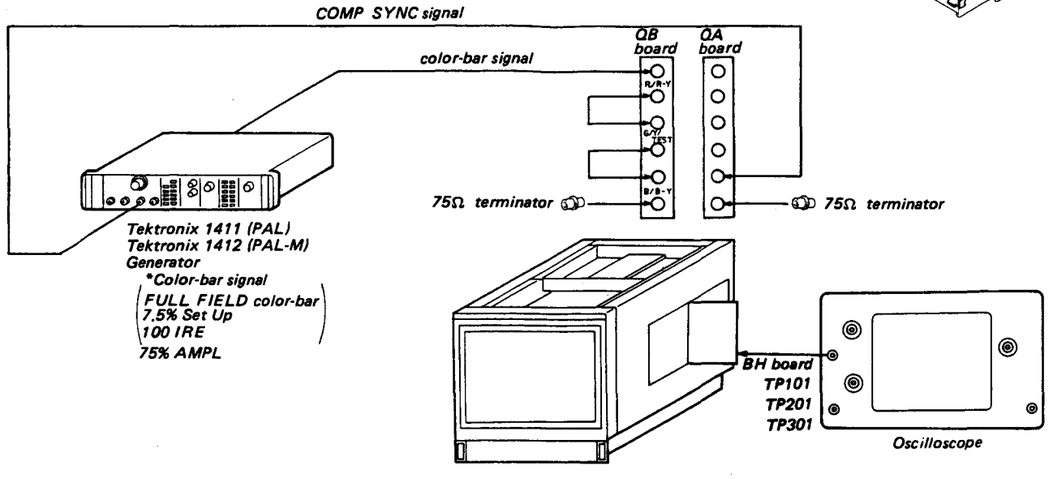



**BA board**

14. Input color-bar signal to R.G.B terminal (QB-board) of this set, also EXT-COMP-SYNC signal to COMP VIDEO terminal (QA-board).
    - INPUT selector (FRONT PANEL (R)) . . . . . B ( ⊓ )
    - SYNC selector (FRONT PANEL (R)) . . . . . EXT ( ⊓ )
    - INPUT SELECT buttons (SUB CONTROL PANEL (R)) . . . . . RGB ( ⊓ )




15. Connect an oscilloscope to TP101 of BH board.
16. Adjust RV401 of BA board so that the Ⓓ (100 IRE level) coincides with Ⓑ (100% white level) as shown in Fig. 3-5.
17. Connect an oscilloscope to TP201 of BH board.
18. Adjust RV501 of BA board so that the Ⓓ (100 IRE level) coincides with Ⓑ (100% white level) as shown in Fig. 3-5.
19. Connect an oscilloscope to TP101 of BH board.
20. Adjust RV601 of BA board so that the Ⓓ (100 IRE level) coincides with Ⓑ (100% white level) as shown in Fig. 3-5.

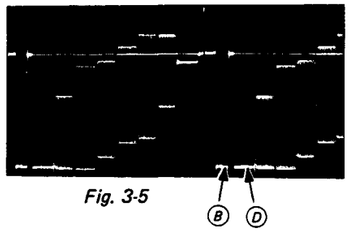
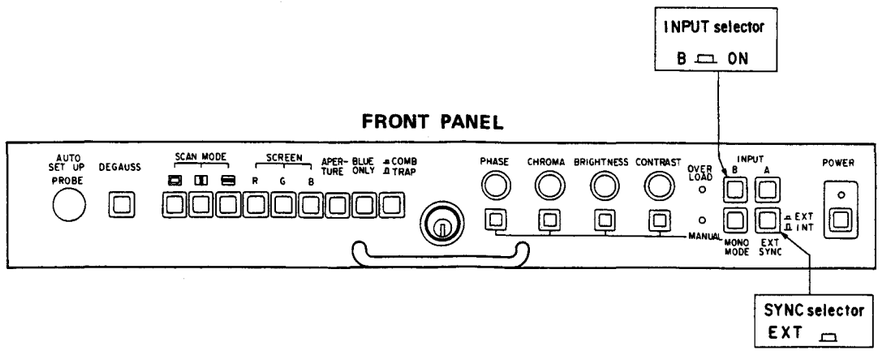
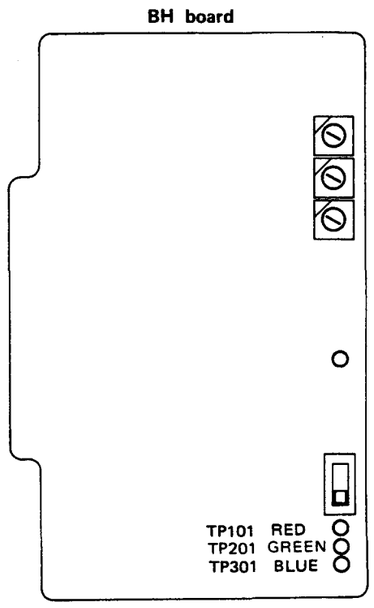
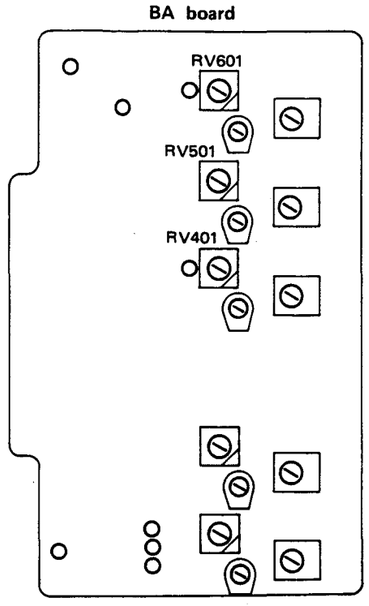


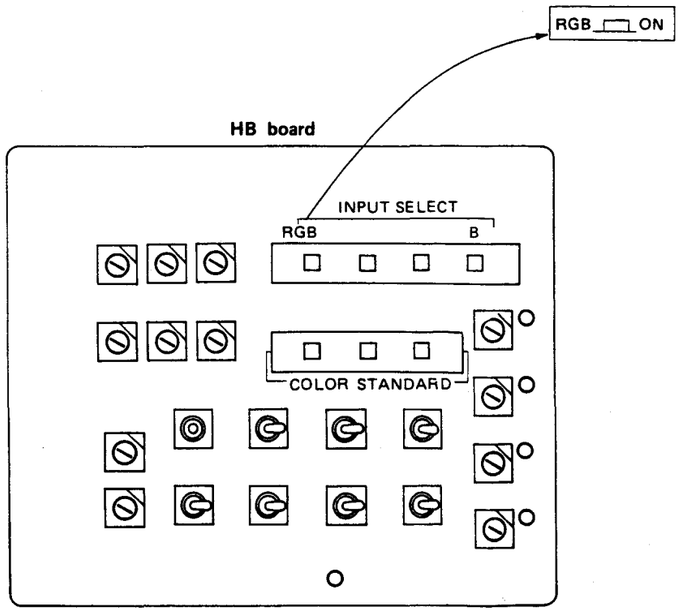

*Fig. 3-5*





## 4. BA Board INPUT CIRCUIT FREQUENCY CHARACTERISTIC ADJUSTMENT

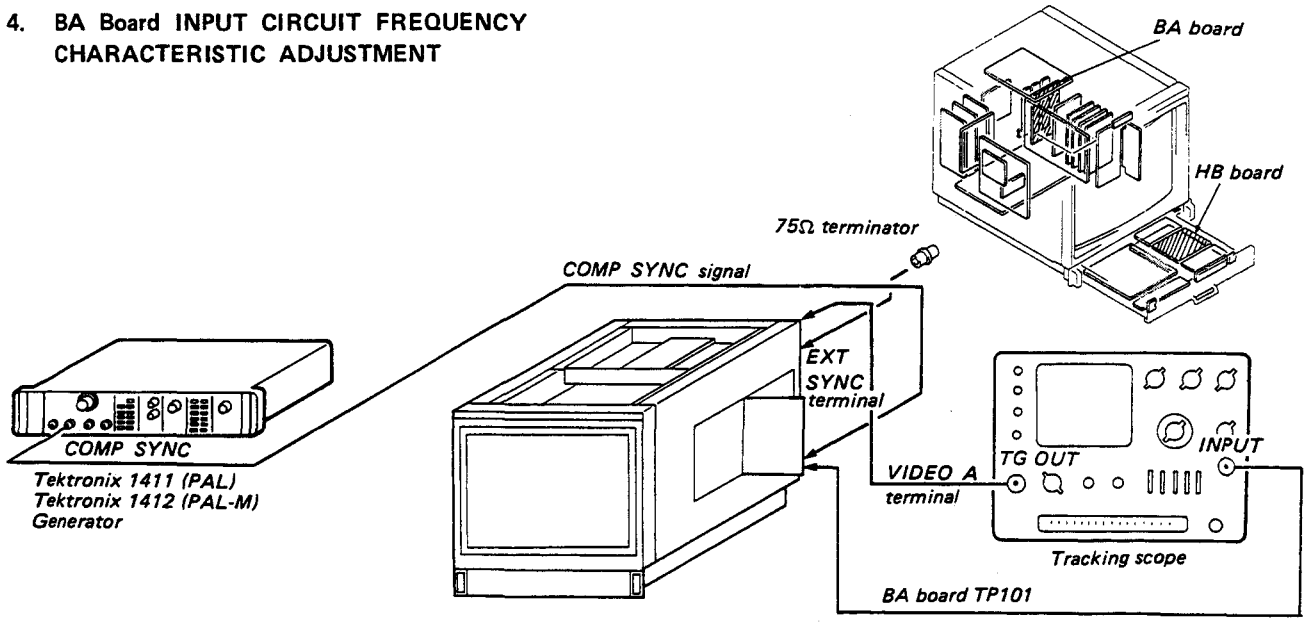



*Fig. 4-1*

1. Complete the connection as shown in Fig. 4-1.
   - INPUT selector . . . . . A (⊓)
   - SYNC selector . . . . . EXT (⊓)
   - CONTRAST control . . . . . Minimum
   - BRIGHTNESS control . . . . . Minimum
2. Adjust CV101 so that minimum as shown in Fig. 4-2.

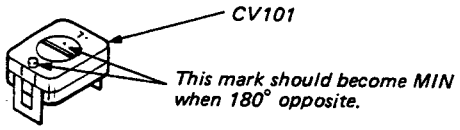



*Fig. 4-2*

3. Adjust output waveform peak to 12MHz with CV102 of the BA board as shown in Fig. 4-3.

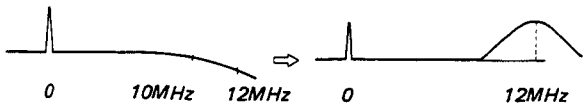



*Fig. 4-3*

4. Adjust CV101 of the BA board so that the output waveform becomes flat in a range of 0 to 10MHz as shown in Fig. 4-4.

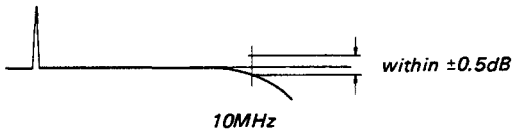
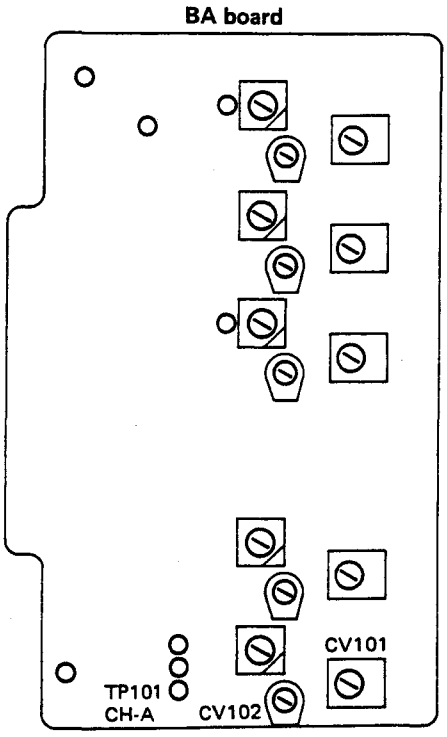


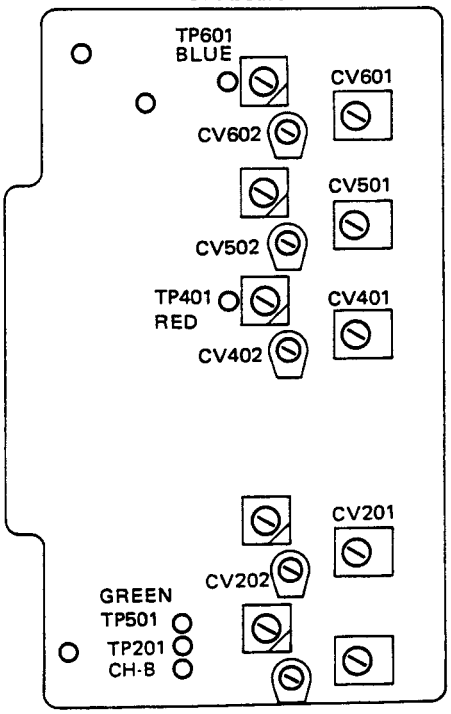

*Fig. 4-4*



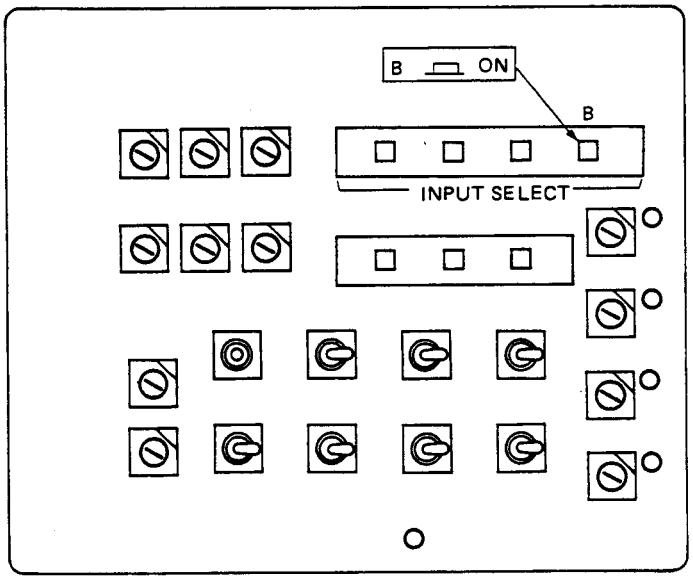
5. In the same way, perform the adjustment for B CH. under the following conditions.

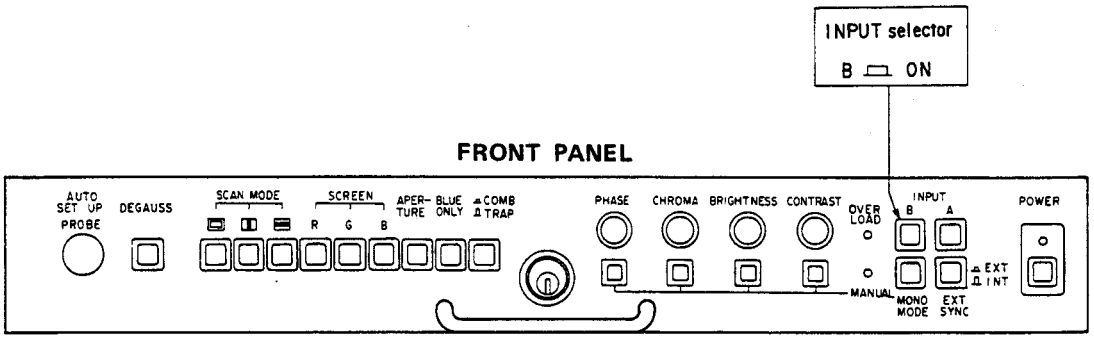
| INPUT | INPUT selector (FRONT PANEL (A) | INPUT SELECT buttons (SUB CONTROL PANEL) | TP (BA board) | CV (BA board) |
|---|---|---|---|---|
| B | B | B | TP201 | CV201, 202 |
| R/R-Y | B | RGB | TP401 | CV401, 402 |
| G/Y/TEST | B | RGB | TP501 | CV501, 502 |
| B/B-Y | B | RGB | TP601 | CV601, 602 |

**BA board**

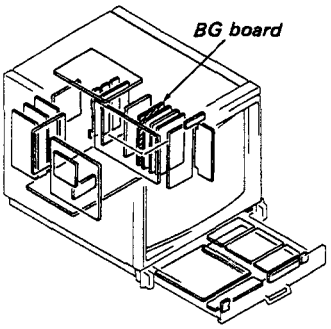



**HB board**



## 5. BG BOARD FREQUENCY CHARACTERISTIC ADJUSTMENT



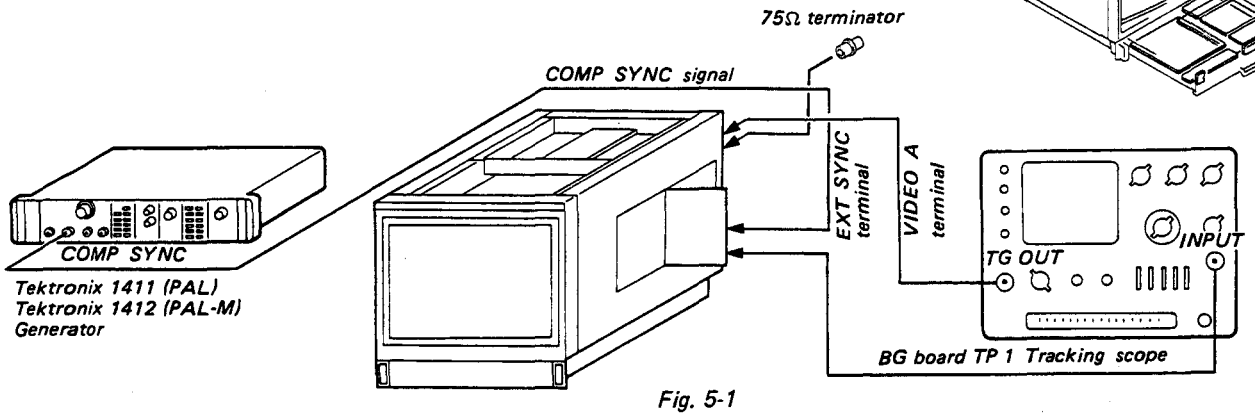




*Fig. 5-1*

1. Complete the connections as shown in Fig. 5-1.
   - INPUT selector (FRONT PANEL) . . . . . A ( ⊓ )
   - SYNC selector (FRONT PANEL) . . . . . EXT ( ⊓ )
   - CONTRAST control . . . . . Minimum
   - BRIGHTNESS control . . . . . Minimum
   - S1 (BG Board) . . . . . 4.5MHz (*4.5* ▭ *6.5*)
2. Adjust RV1, CV2 and CV3 of the BG board so that the output waveform becomes flat in a range of 0 to 10MHz as shown in Fig. 5-2. (within 0±0.5dB)

   *Waveform movement by RV1, CV2, CV3

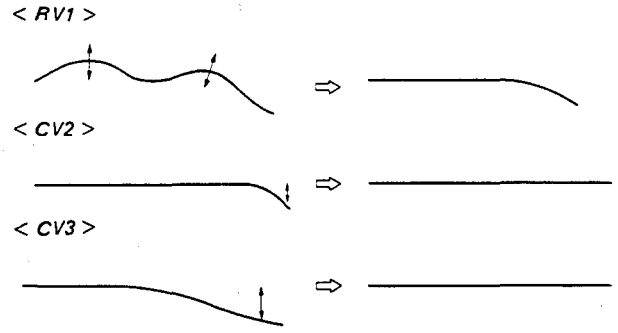
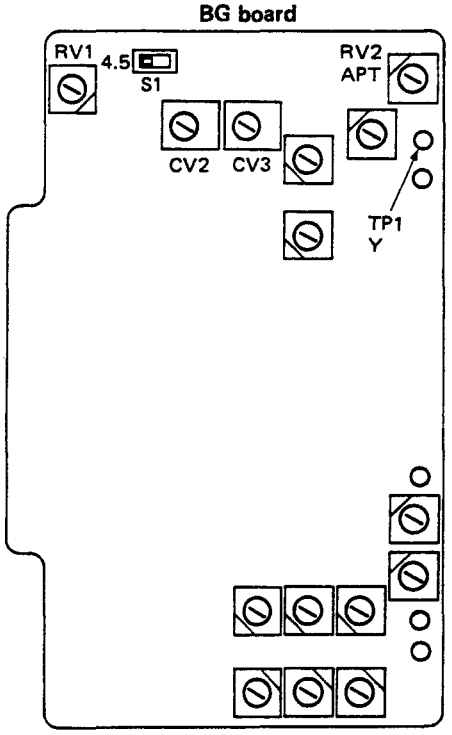



*Fig. 5-2*




3. Adjust with RV2 (BG board) to the position in which the APT (Fig. 5-3.) begins to become effective.

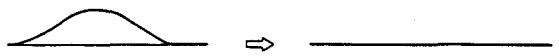


*Fig. 5-3*

## 6. COMPONENT INPUT LEVEL ADJUSTMENT

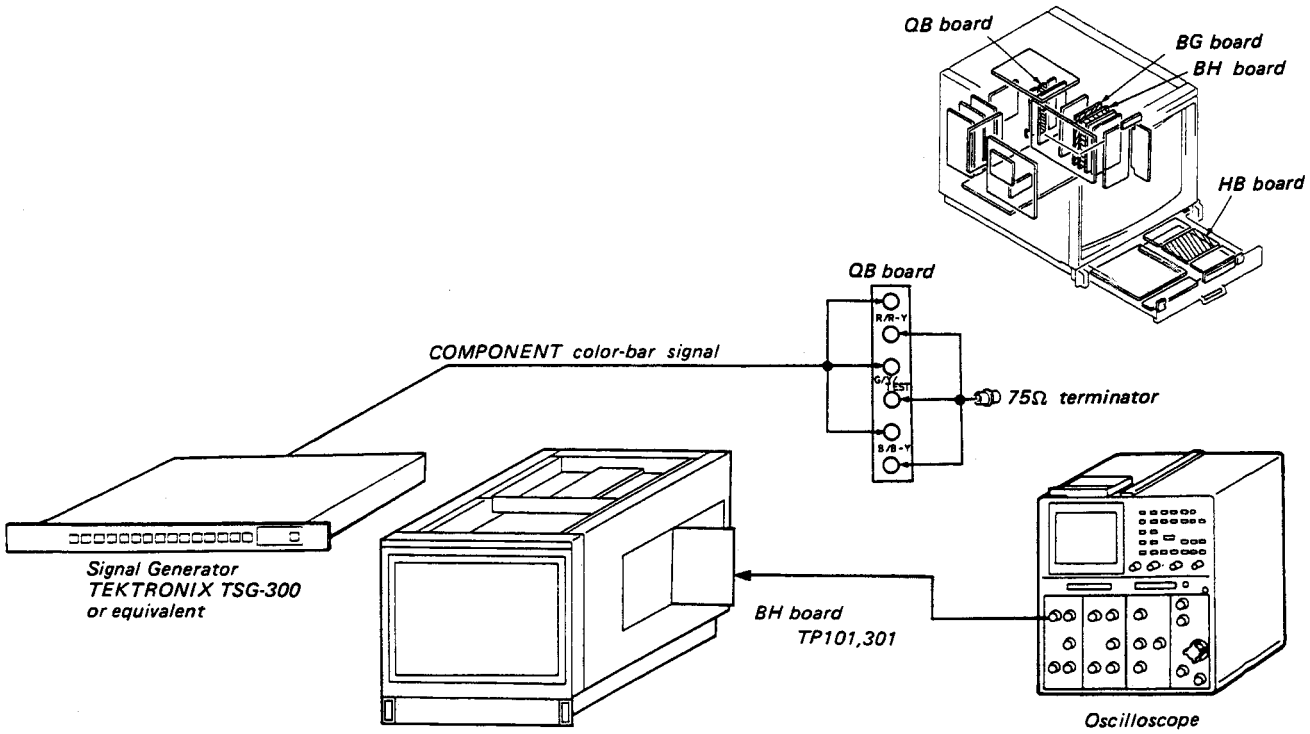



*Fig. 6-1*

1. Complete the connections as shown in Fig. 6-1.
   - INPUT selector . . . . . B (FRONT PANEL (R))
   - INPUT SELECT buttons (RIGHT SIDE DRAWER) (HB board) . . . . . COMPONENT
2. Connect an oscilloscope to the TP-101 of BH board.
3. Adjust RV21 of BG board so that the output waveform becomes flat. (Fig. 6-2)

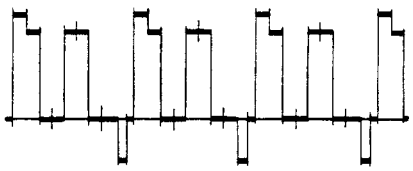


*Fig. 6-2*

4. Connect an oscilloscope to the TP301 of BH board.
5. Adjust RV22 of BG board so that the input waveform becomes flat. (Fig. 6-3)

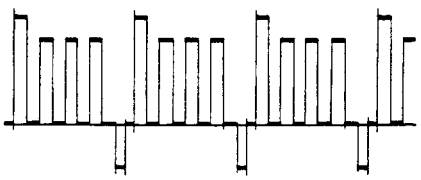
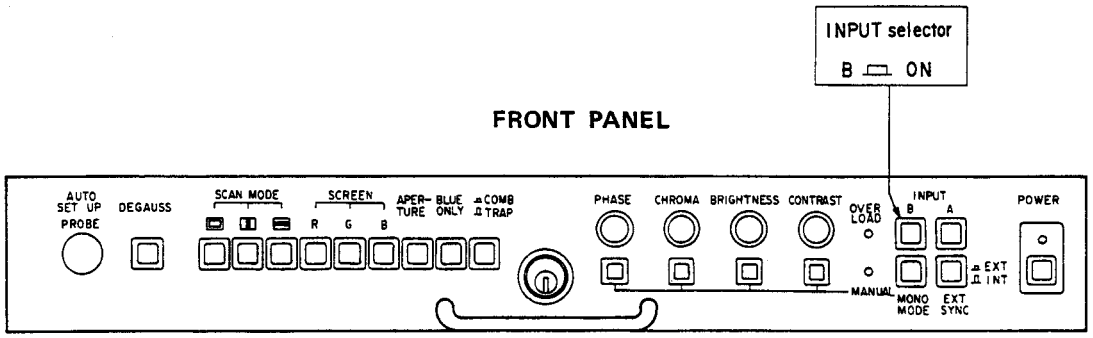
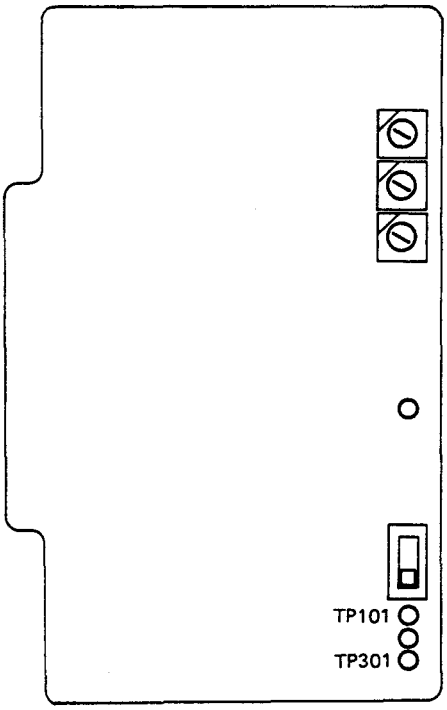


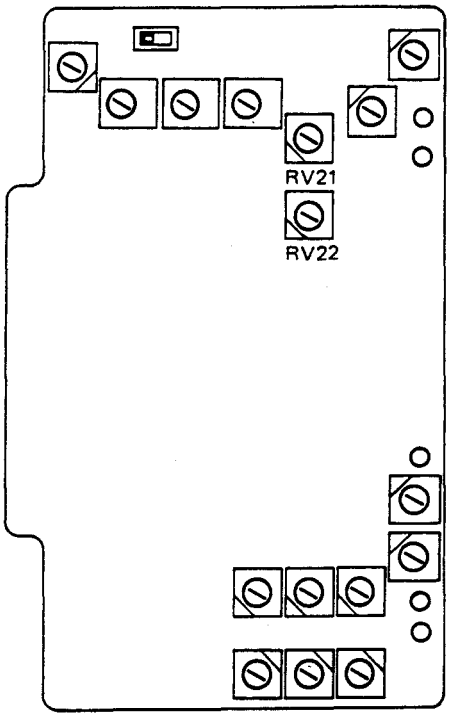
*Fig. 6-3*



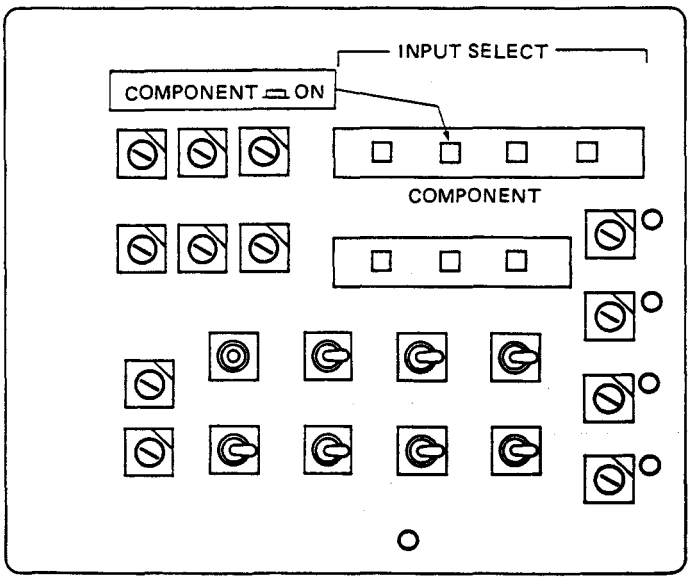
**BH board**



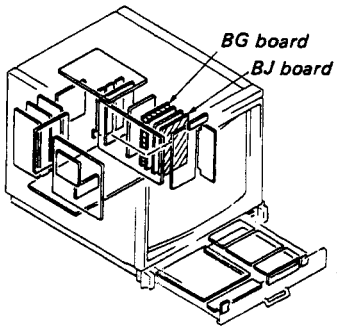

**BG board**

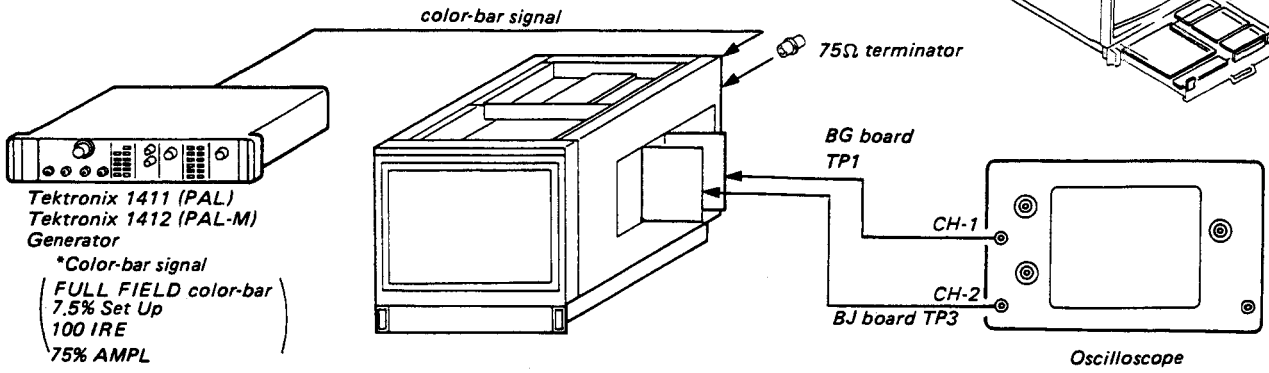



**HB board**

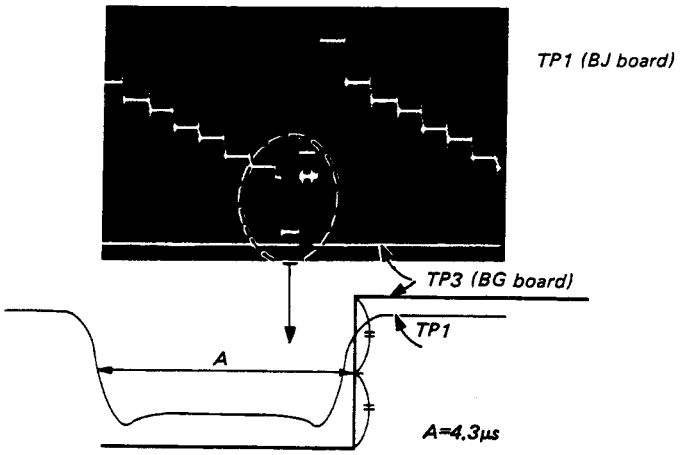


## 7. BJ Board BURST GATE PULSE ADJUSTMENT



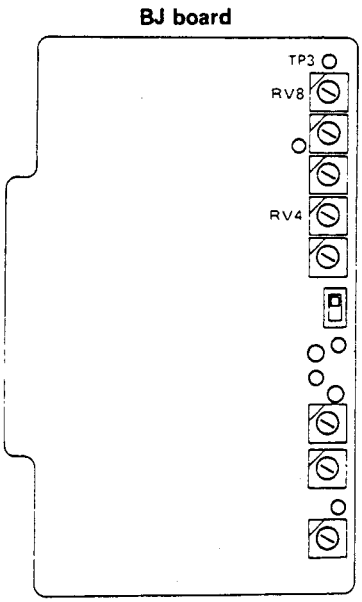




1. Input a color-bar signal to the VIDEO A terminal of the set.
2. Connect an oscilloscope (CH-1 probe) to the TP1 of BG board and connect an oscilloscope (CH-2 probe) to the TP3 of BJ board.
3. Adjust RV8 of BJ board so that the with A width is 4.3μs as shown in Fig. 7-1.




* Adjust (A), from SYNC fall to B.G.P. (BURST GATE PULSE) rise, to 4.3μs.

Fig. 7-1




4. Adjust RV4 of BJ board so that the burst gate pulse width is 3.9 μs as shown in Fig. 7-2.

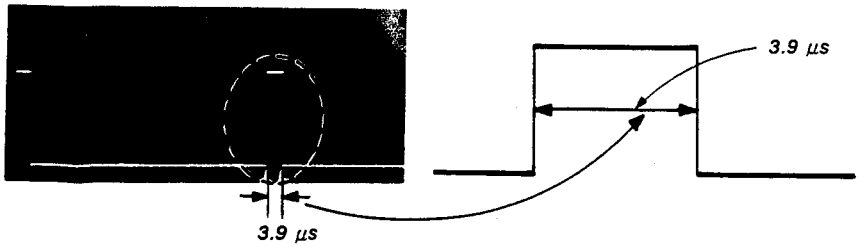
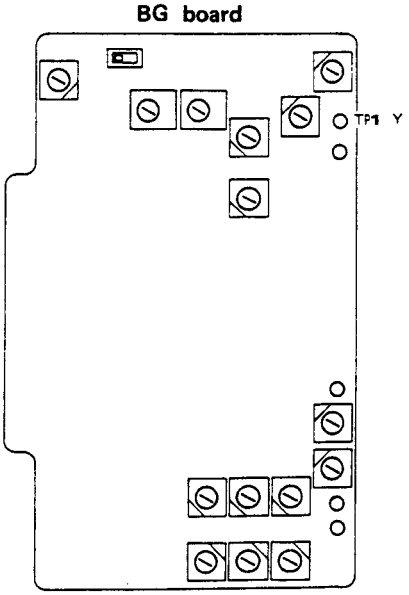
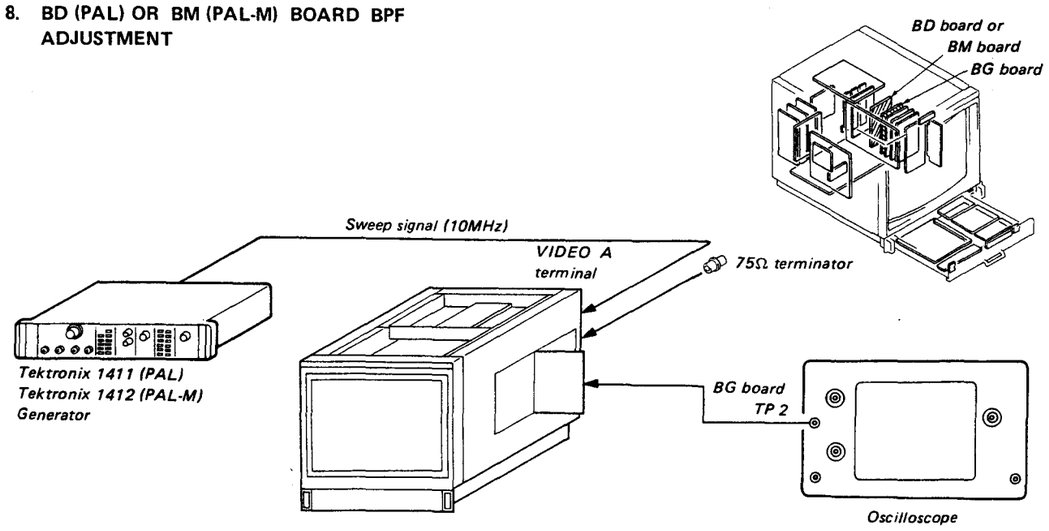



Fig. 7-2



## 8. BD (PAL) OR BM (PAL-M) BOARD BPF ADJUSTMENT




* Set the PAL switch of the BVM-2010P or 2010PM to the S position.

1. Input SWEEP signal (10MHz) to the VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP2 on the BG board.
3. Make the V/div of oscilloscope into VARIABLE, and match the upper section of waveform to 7 div as shown in Fig. 8-1.

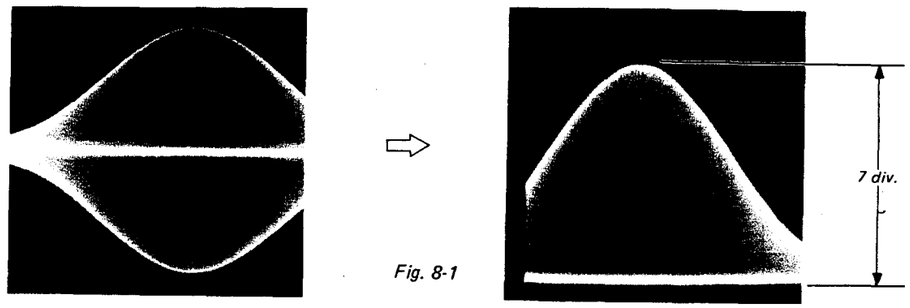
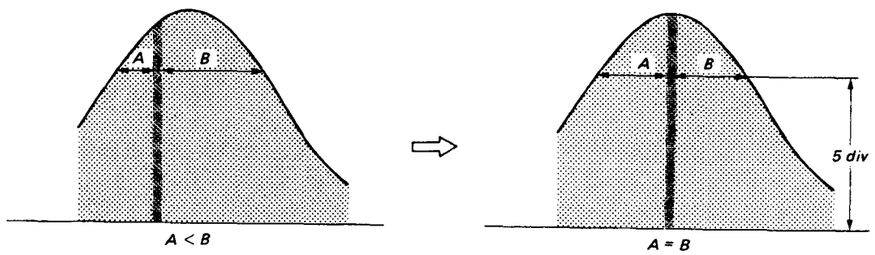



Fig. 8-1

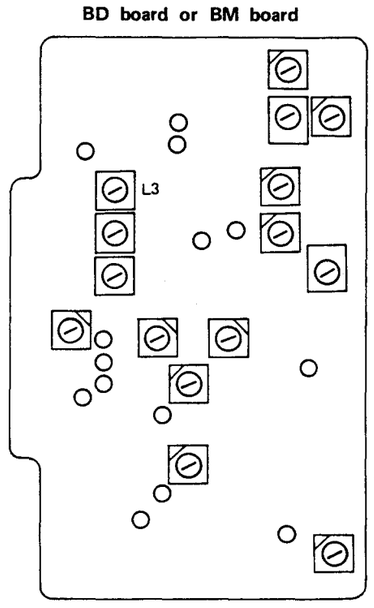
4. Adjust L3 on the BD board so that A is equal to B as shown in Fig. 8-2.

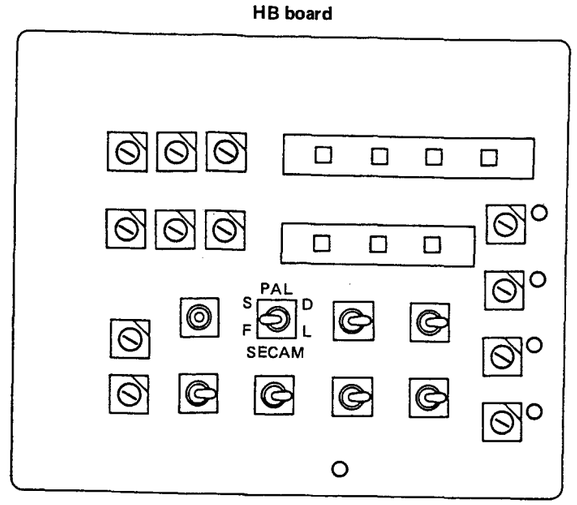


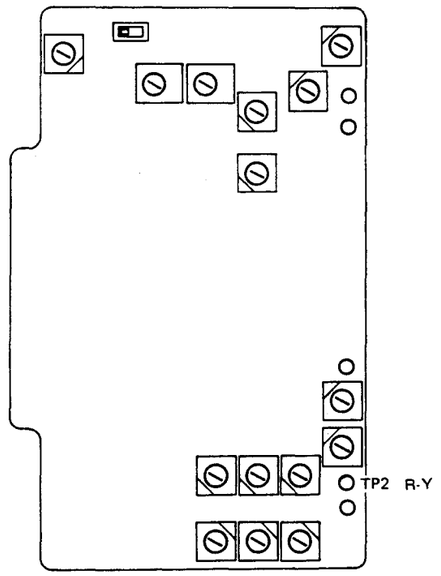

A is equal to B when the amplitude is 5 div.

Fig. 8-2





## 9. BD (PAL) OR BM (PAL-M) BOARD PHASE SHIFT ADJUSTMENT

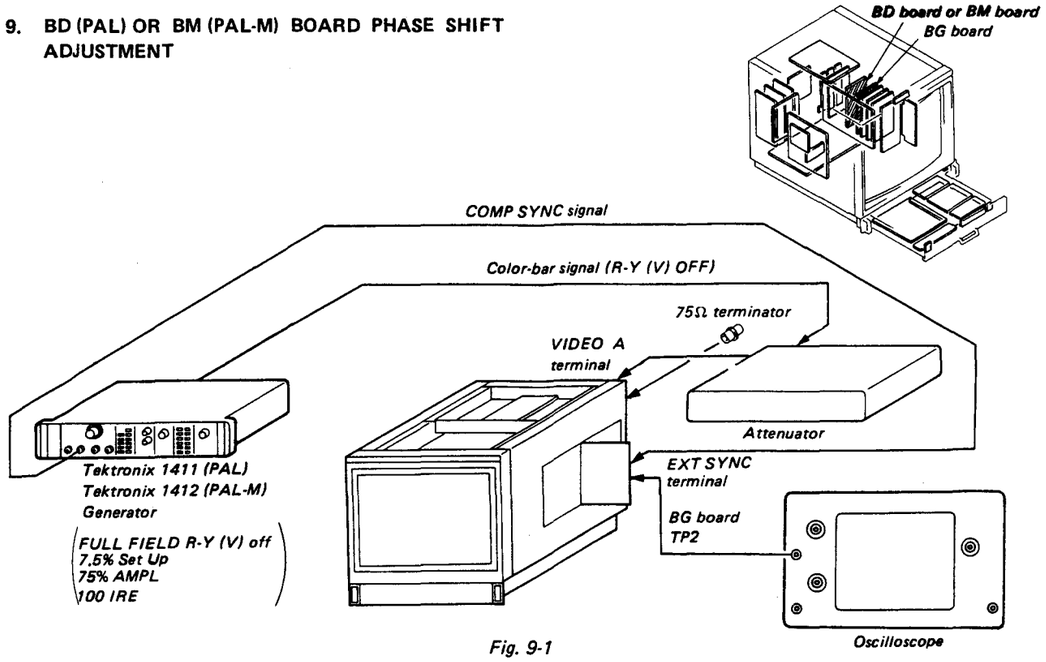



*Fig. 9-1*

* Set the PAL switch of the BVM-2010P or 2010PM to the S position and RV2, CV1, CV2 on the BD or BM board to mechanical midposition.

1. Complete the connection as shown in Fig. 9-1.
   - INPUT selector (FRONT PANEL (R)) . . . A ( ⊓ )
   - SYNC selector (FRONT PANEL (R)) . . . EXT ( ⊓ )
2. Connect an socilloscope to the TP2 on the BG board.
3. Make the waeform flat with the PHASE control of front panel (R) as shown in Fig. 9-2.
4. Attenuate the signal by 10dB by using attenuator.
5. Adjust RV2 on the BD or BM board so that the output waveform becomes flat as shown in Fig. 9-2.
6. Restore the attenuator to 0dB.
7. Repeat the steps 3 to 5.

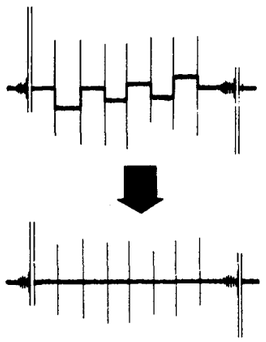
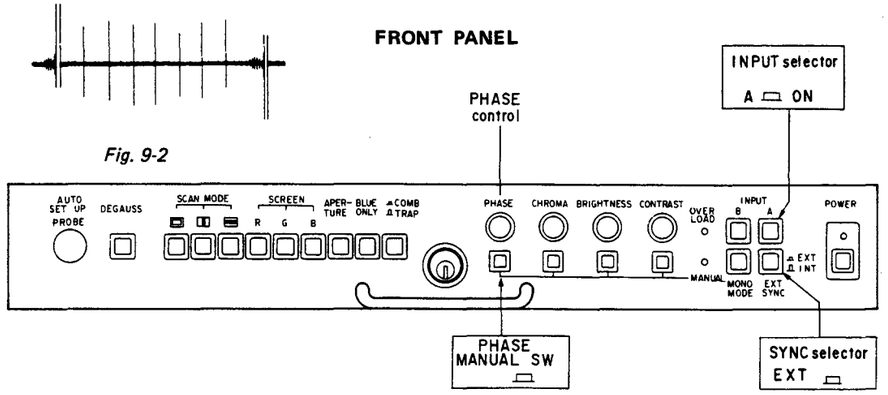
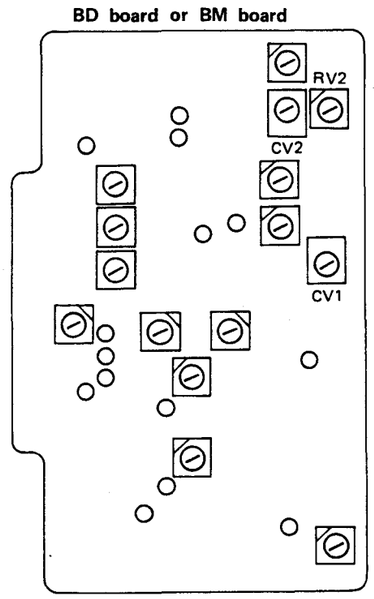
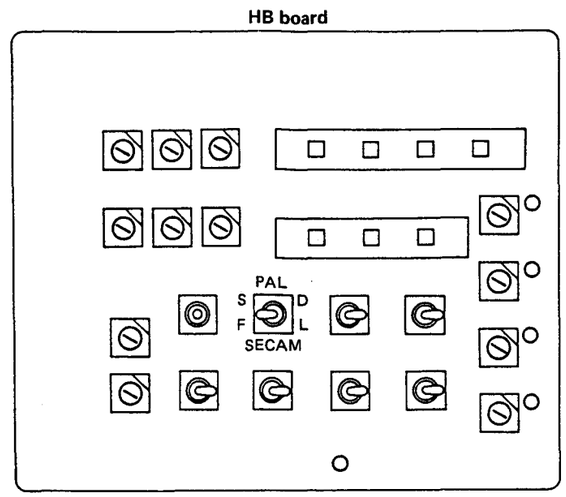


*Fig. 9-2*

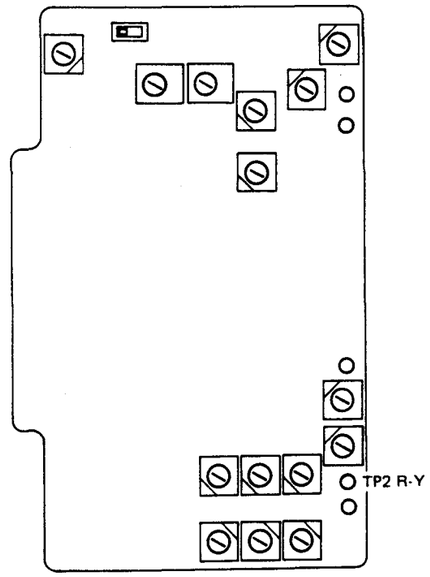




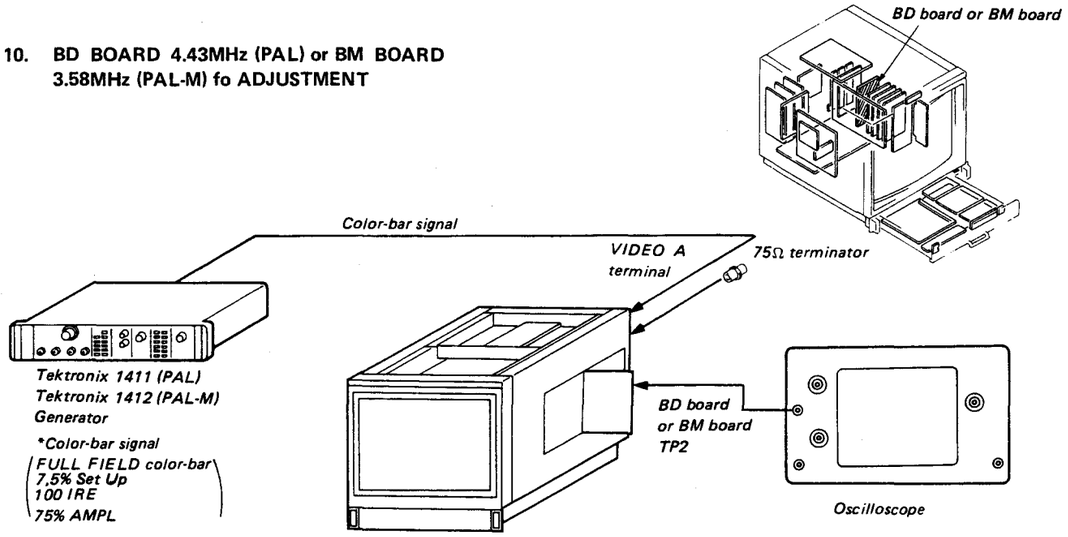




**BG board**



## 10. BD BOARD 4.43MHz (PAL) or BM BOARD 3.58MHz (PAL-M) fo ADJUSTMENT




1. Input color-bar signal to the VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP2 of BD or BM board.
3. Short-circuit between TP11, 12 of BD or BM board with a jumper wire.
4. Adjust CV2 of BD or BM board so that the output waveform is shifted slowly as shown in Fig. 10-1.
5. Turn off the power of this monitor, and disconnect TP11, 12 of BD or BM board.

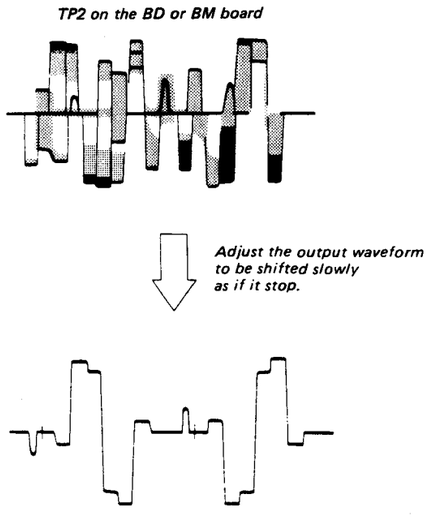
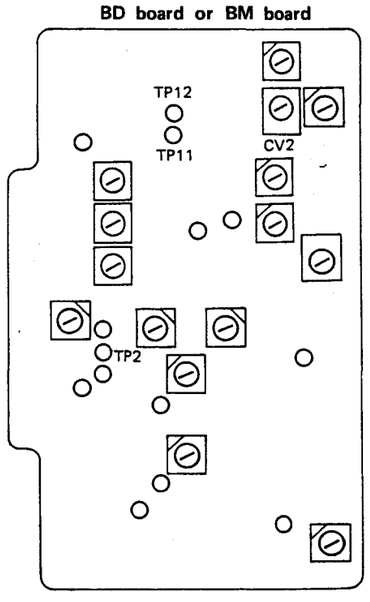



*Fig. 10-1*



## 11. BD BOARD (PAL) or BM BOARD (PAL-M) COLOR DIFFERENCE PHASE ADJUSTMENT

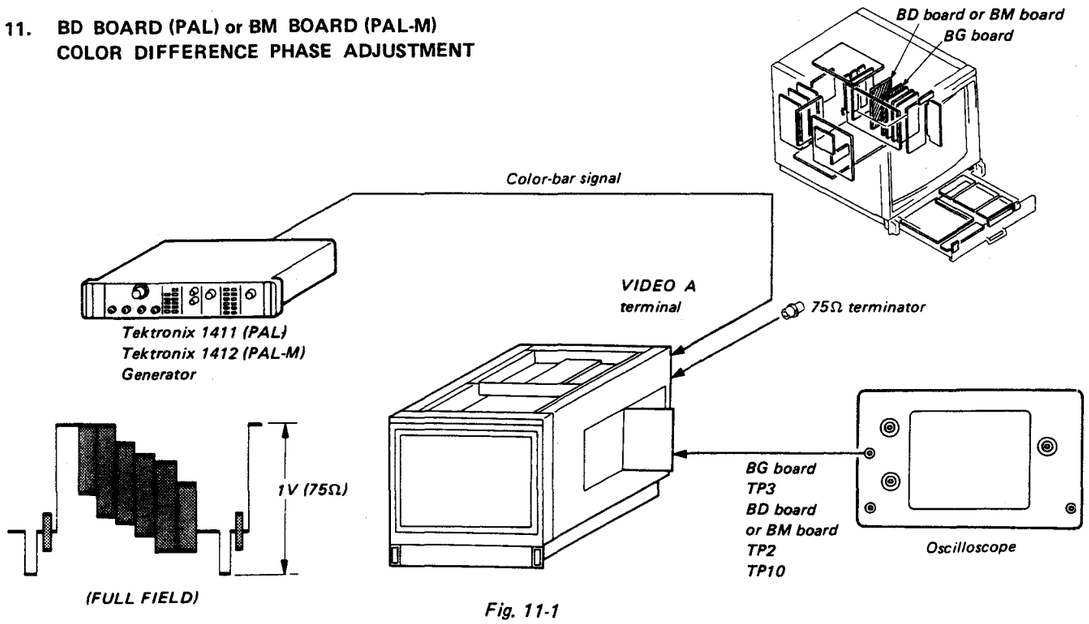



Fig. 11-1

1. Complete the connections as shown in Fig. 11-1.
2. Turn on the power of this monitor. Set the INPUT switch to the A position, the SYNC switch to the INT position, and the PAL switch to the S position.

**B-Y System Adjustment**

3. Connect the oscilloscope probe to TP3 on the BG board, and turn off the U (B-Y) signal of the signal generator.
4. Set the oscilloscope sensitivity to 20mV/DIV, and adjust RV8 on the BD or BM board so that the output waveform is flat. (See Fig. 11-2.)

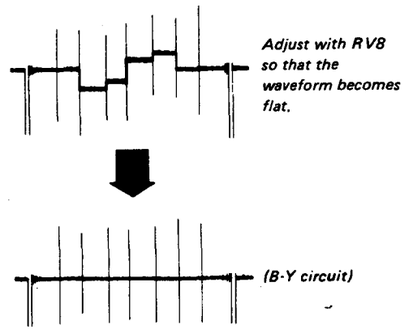
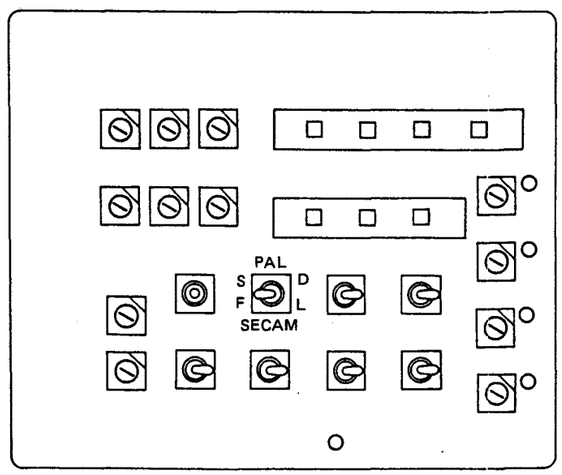



Fig. 11-2

**HB board**






**Quad Adjustment**

5. Connect the oscilloscope probe to TP2 on the BD or BM board. Turn on the U signal of the signal generator, and turn off the V (R-Y) signal. Then adjust CV1 on the BD or BM board so that the output waveform is flat. (See Fig. 11-3.)
6. Repeat the steps 3 to 6.

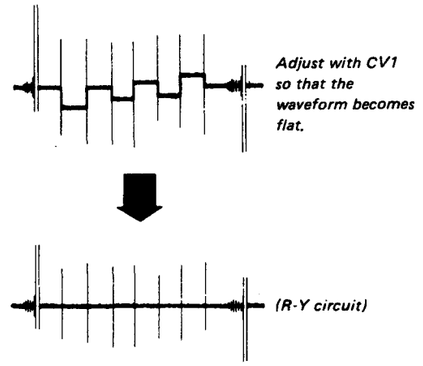
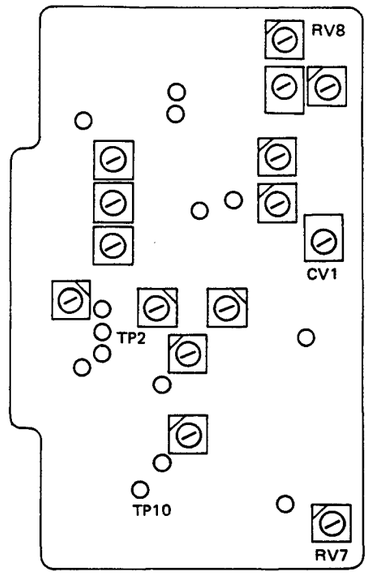



Fig. 11-3

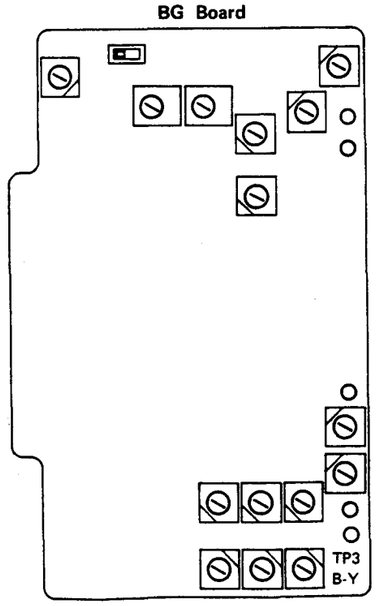
**PAL-D Phase Adjustment**

7. Set the PAL switch to the D position and turn on the V signal of the signal generator, and turn off U signal.
8. Connect the oscilloscope probe to TP10 on the BD or BM board.
9. Adjust RV7 on the BD board so that the output waveform is flat. (See Fig. 11-2.)
10. Finally, perform the adjustments of 3 and 4 by directly mounting the BD or BM board to the set, without using the extension board.

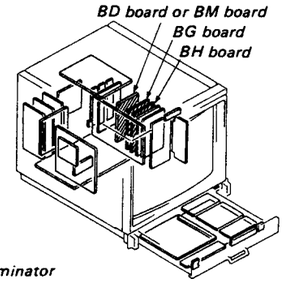
**BD board or BM board**

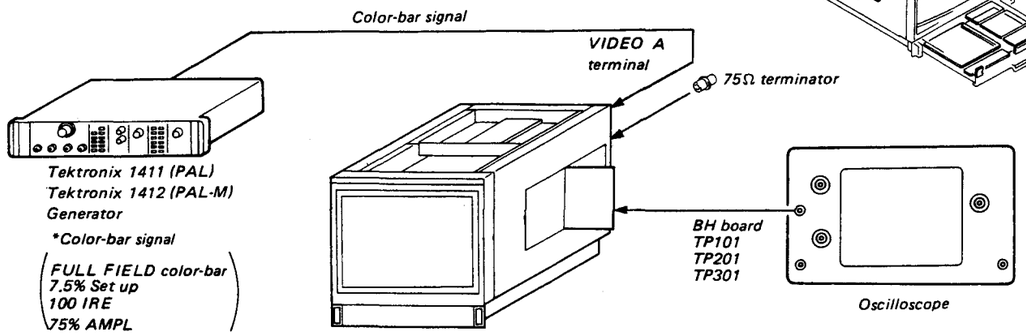



**BG Board**



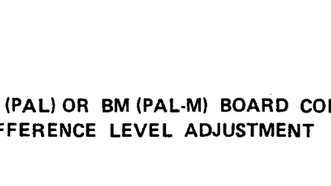
## 12. BD (PAL) OR BM (PAL-M) BOARD COLOR DIFFERENCE LEVEL ADJUSTMENT




* Set the PAL switch of the BVM-2010P or 2010PM to the S position.

1. Input color-bar signal to the VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP101 of BH board.
3. Adjust RV3 of BD or BM board so that the levels with ※ is flat as shown in Fig. 12-1.



TP101 R OUT

* *Adjust the levels with ※ to be flat respectively useing RV3 of BD or BM board.*

**HB board**

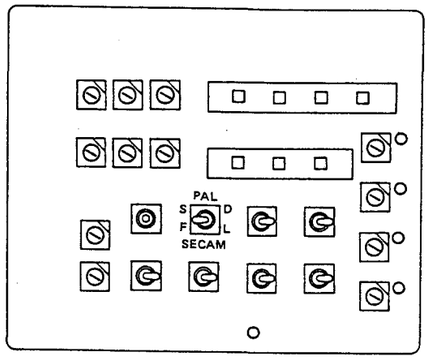
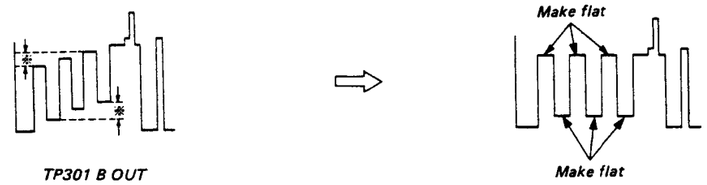



*Fig. 12-1*

4. Connect an oscilloscope to the TP301 of BH board.
5. Adjust RV4 of BD or BM board so that the output waveform as shown in Fig. 12-2.




TP301 B OUT

*Fig. 12-2*



6. Connect an oscilloscope to the TP201 of BH board.
7. Adjust RV4 and RV5 of BG board so that the INPUT waveform becomes flat as shown in Fig. 12-3.



TP201 G OUT

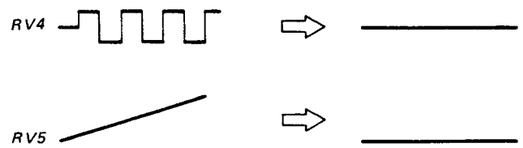
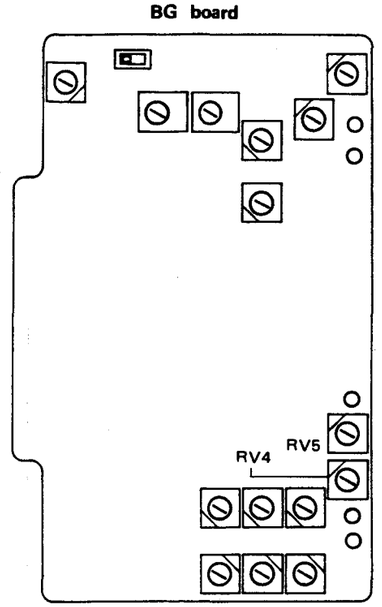
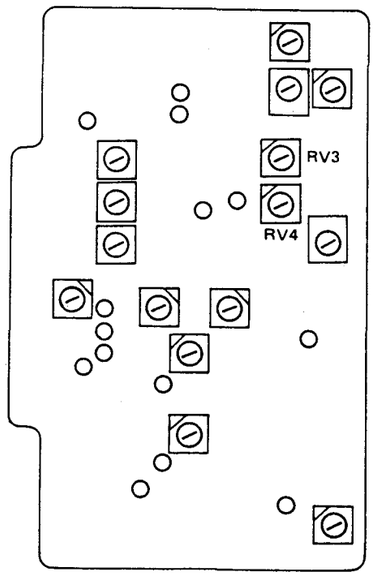



*Fig. 12-3*

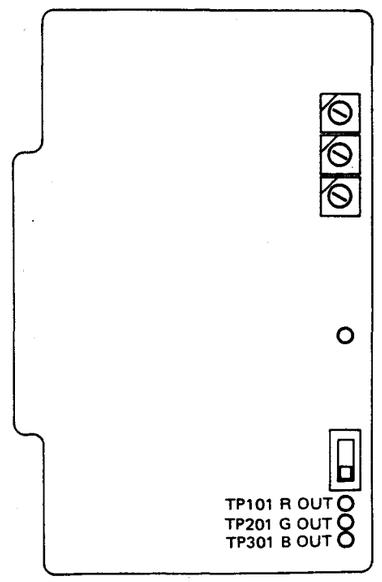
**BG board**




**BD board or BM board**




**BH Board**



## 13. BD BOARD (PAL) OR BM BOARD (PAL-M) PAL-D GAIN AND CCD BIAS ADJUSTMENT

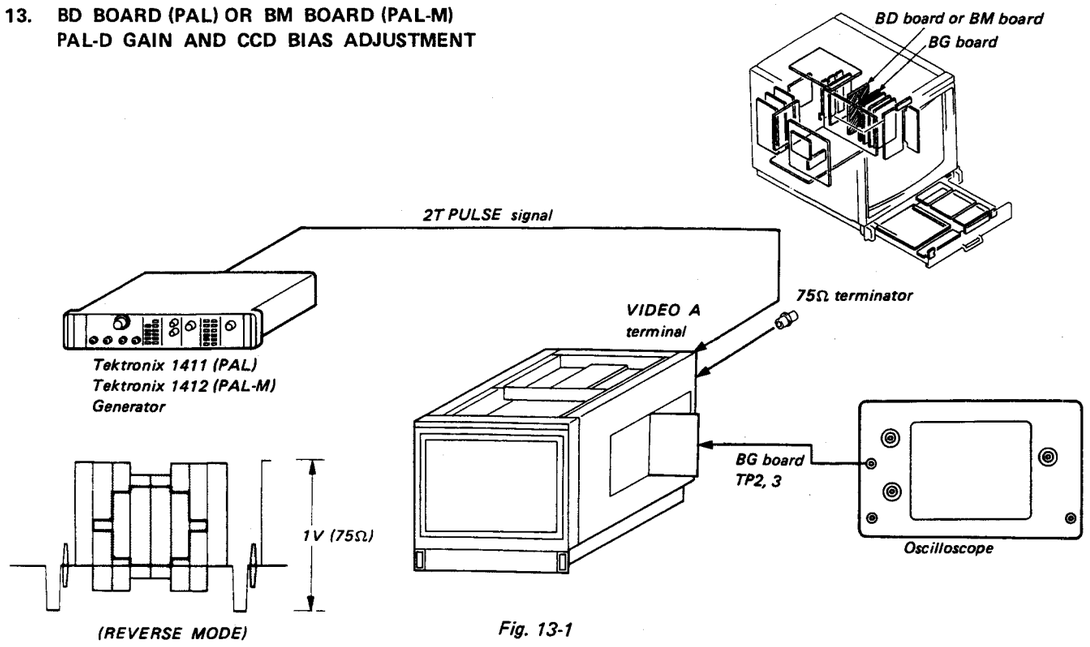



Fig. 13-1

* Set the PAL switch of BVM-2010P or 2010PM to the D position.

1. Complete the connections as shown in Fig. 13-1. Turn on the power of this monitor. Set the INPUT switch to the A position, and the SYNC switch to the INT position.
2. Connect the oscilloscope probe to TP2 on the BG board.
3. Turn RV5 and RV6 on the BD or BM board fully clockwise.
4. By observing the waveform shown in Fig. 13-2, adjust RV9 on the BD or BM board so that it becomes A = B.
5. Adjust RV5 on the BD or BM board so that the waveform shown in Fig. 13-2 becomes flat.
6. Connect the probe of the oscilloscope to TP3 on the BG board and obseve the section shown in Fig. 13-3.
7. Adjust RV10 on the BD or BM board so that the waveform of the oscilloscope becomes A = B.
8. Adjust RV6 on the BD or BM board so that the waveform shown in Fig. 13-3 becomes flat.

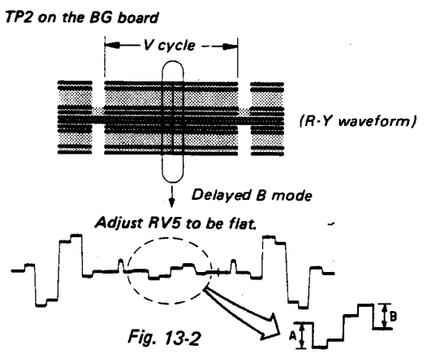



Fig. 13-2

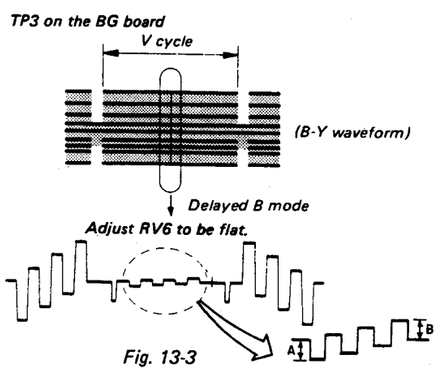
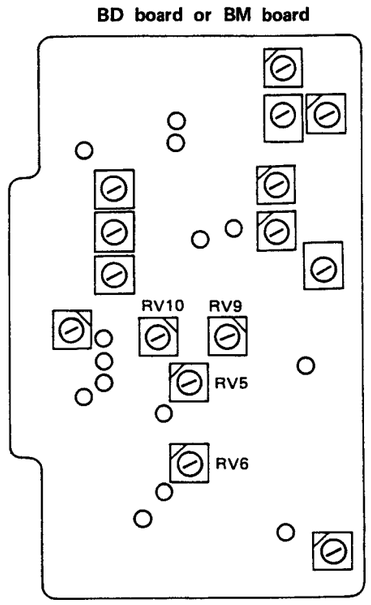
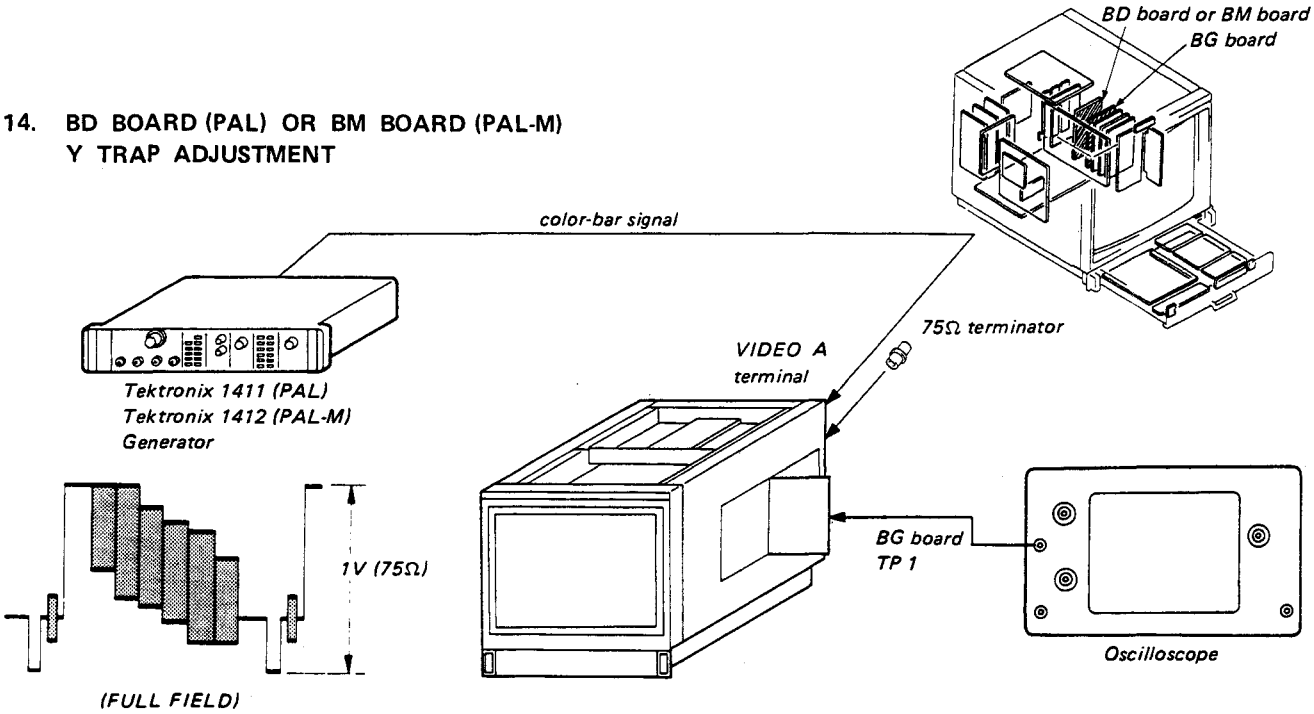



Fig. 13-3





## 14. BD BOARD (PAL) OR BM BOARD (PAL-M) Y TRAP ADJUSTMENT




1. Input color-bar signal to VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP1 of BG board.
3. Adjust L1 of BD or BM board so that 4.43 MHz (PAL) or 3.58 MHz (PAL-M) subcarrier is minimum as shown in Fig. 14-1.

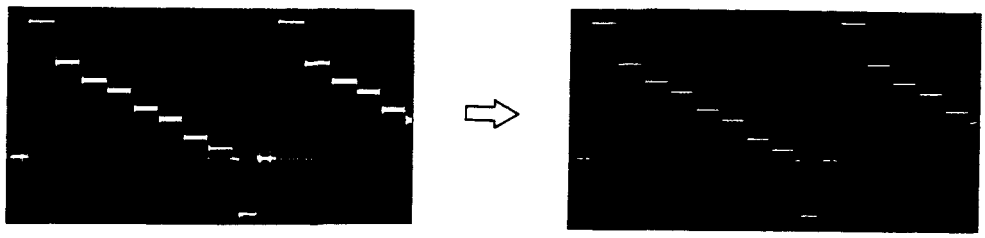
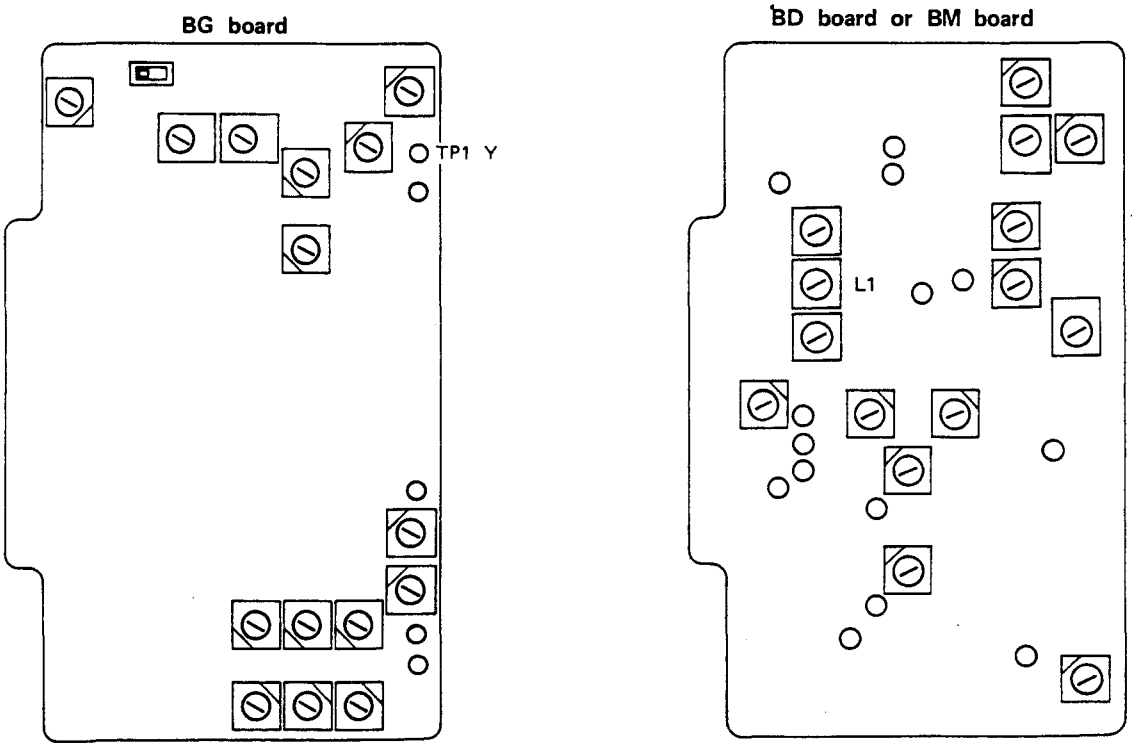
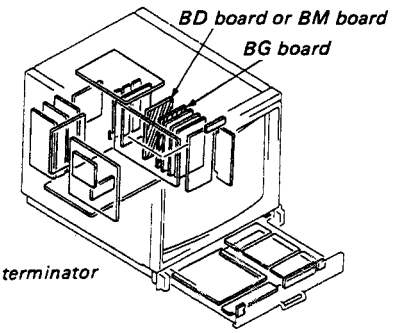
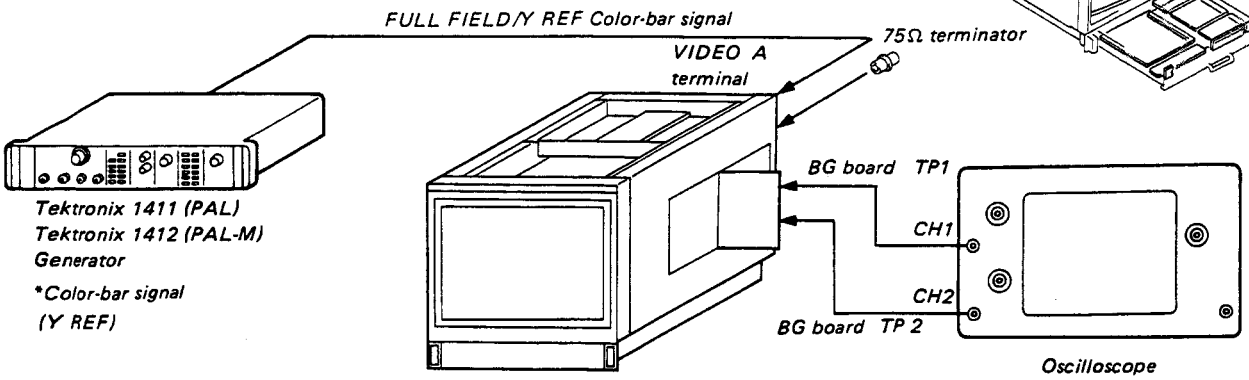


*Fig. 14-1*



## 15. BD BOARD (PAL) OR BM BOARD (PAL-M) Y-C DELAY TIME ADJUSTMENT




* Set the PAL switch of the BVM-2010P or 2010PM to the S position.

1. Input color-bar signal (FULL FIELD/Y REF) to the VIDEO A terminal of the set.
2. Connect an oscilloscope (CH-1 probe) to the TP1 of BG board and connect an oscilloscope (CH-2 probe) to the TP2 of BG board (VERT mode of the oscilloscope is CHOP).
3. Adjust RV1 of BD or BM board so that the output waveform as shown in Fig. 15-1.

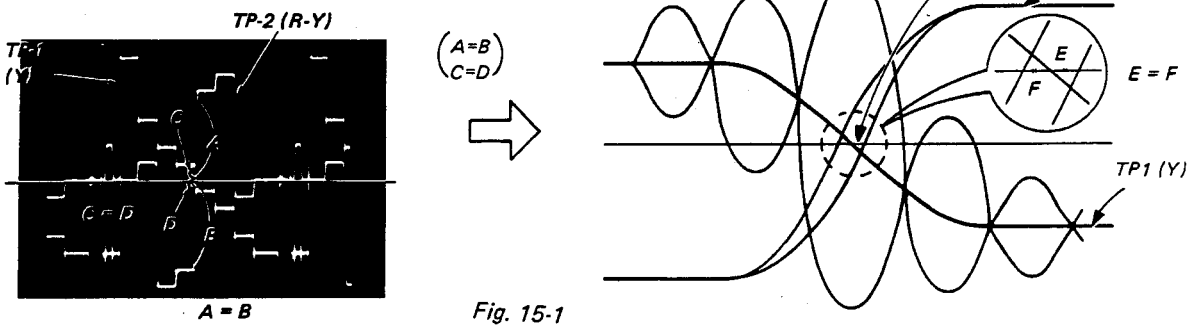
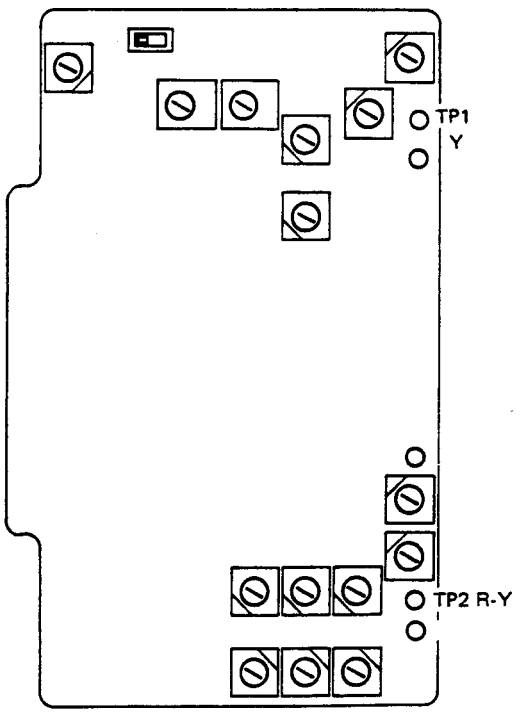
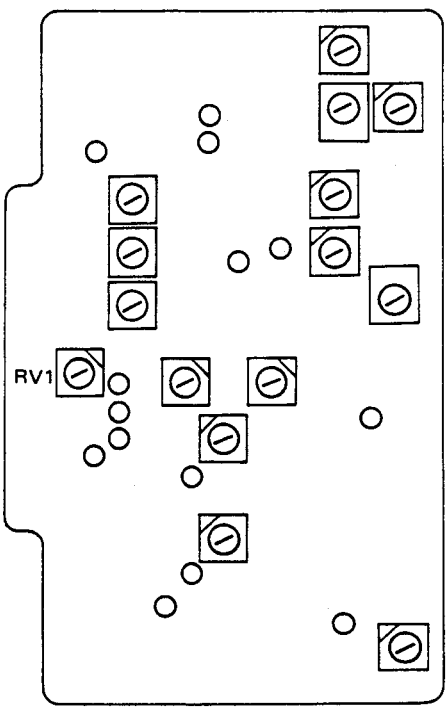



Fig. 15-1

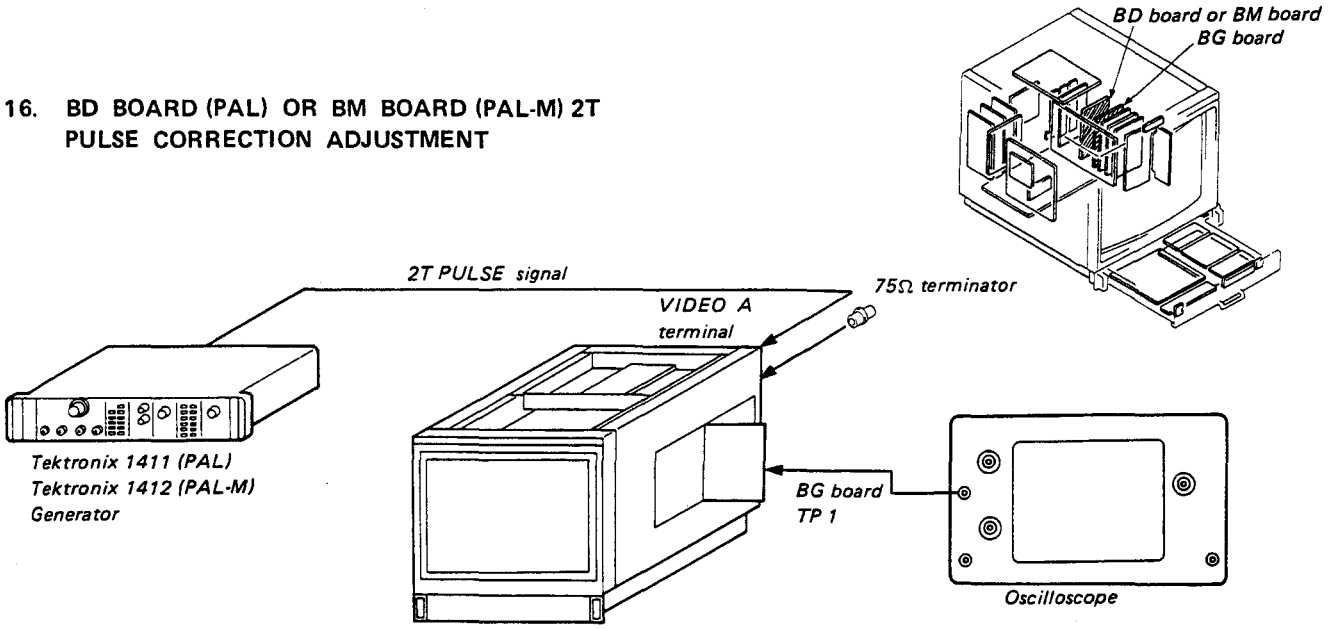
**BG Board**




**BD board or BM board**



## 16. BD BOARD (PAL) OR BM BOARD (PAL-M) 2T PULSE CORRECTION ADJUSTMENT




1. Input 2T pulse signal to VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP1 of BG board.
3. Adjust L2 of BD or BM board so that A is equal to B as shown in Fig. 16-1.
4. Change the input signal from 2T pulse to T pulse, and make sure the waveform balance is not lost extremely as shown in Fig. 16-1.

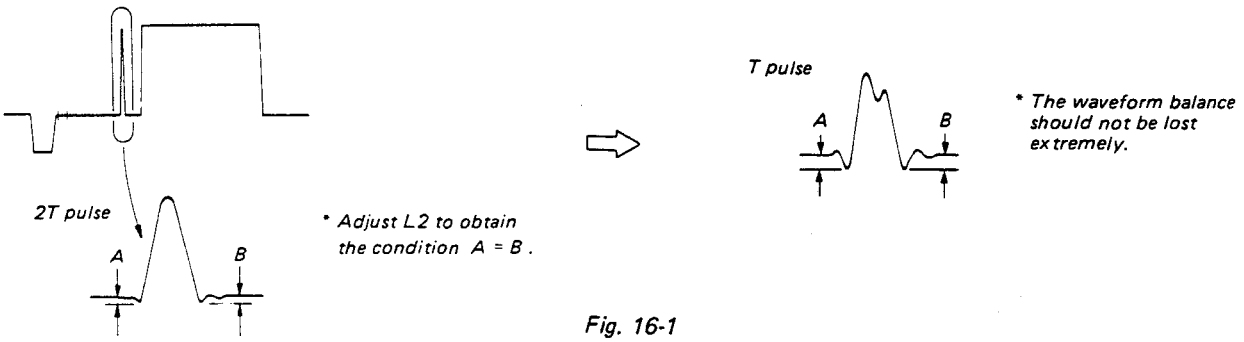
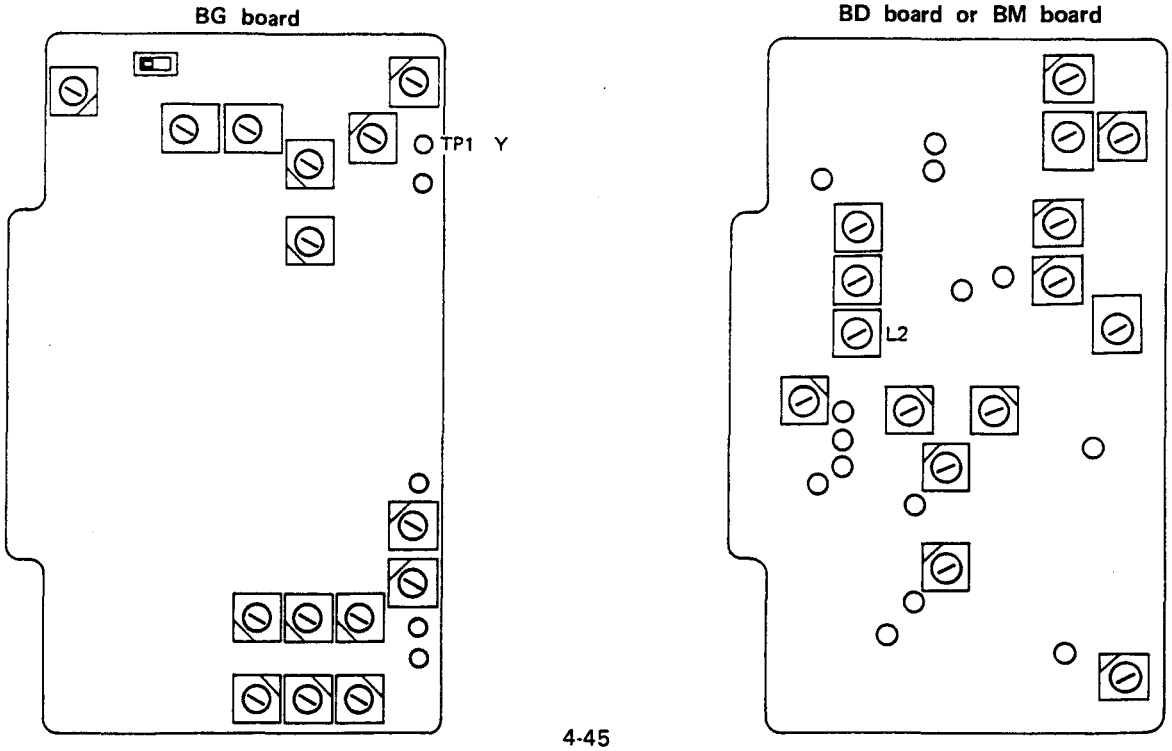
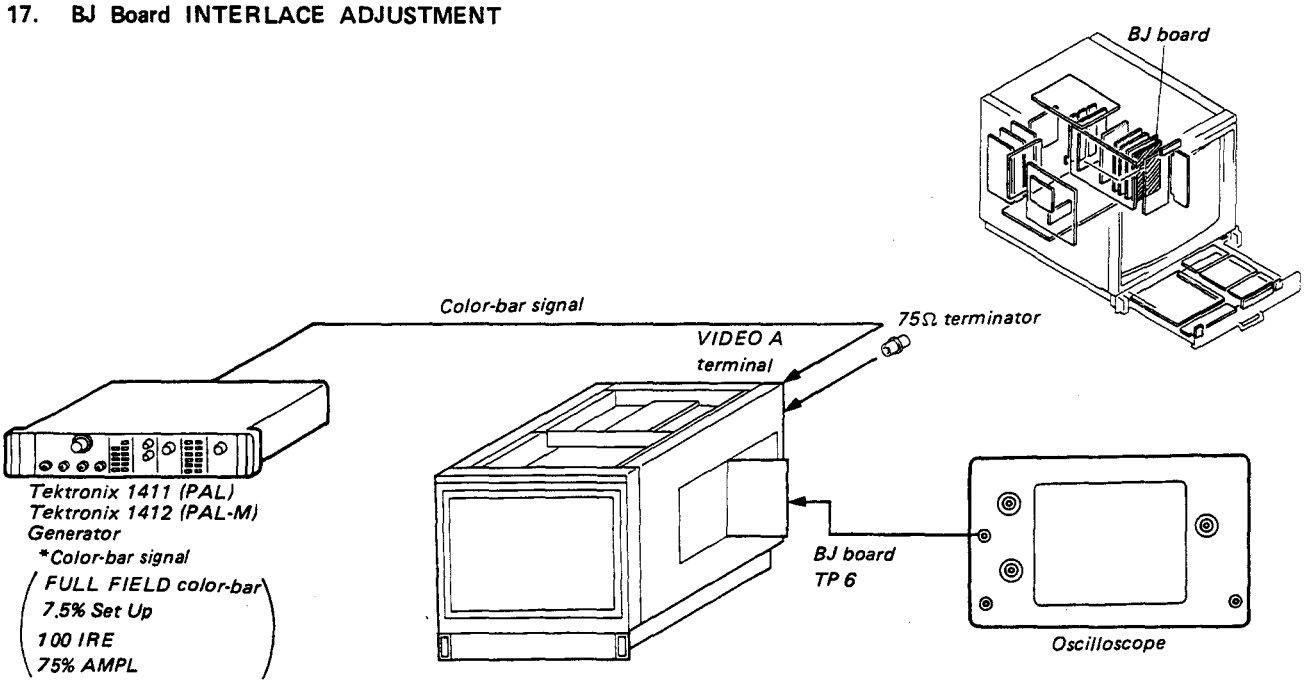


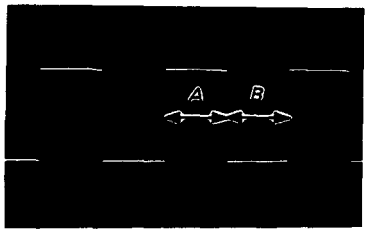

*Fig. 16-1*



## 17. BJ Board INTERLACE ADJUSTMENT

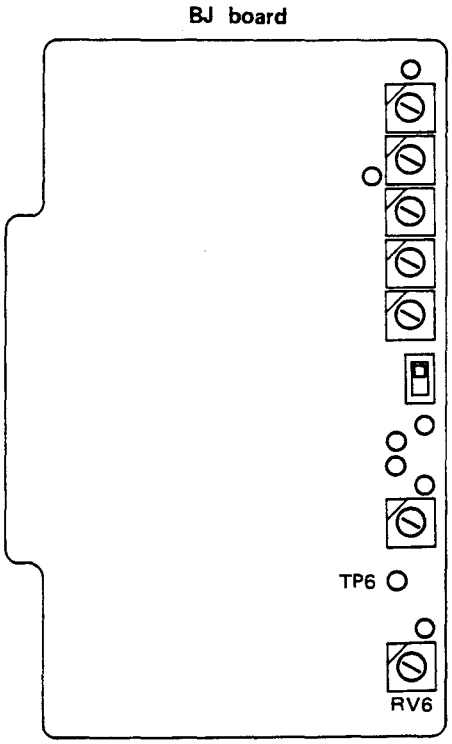



1. Input color-bar signal to the VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP6 on the BJ board.
3. Adjust RV6 to obtain the waveform on the oscilloscope as shown in Fig. 17-1.

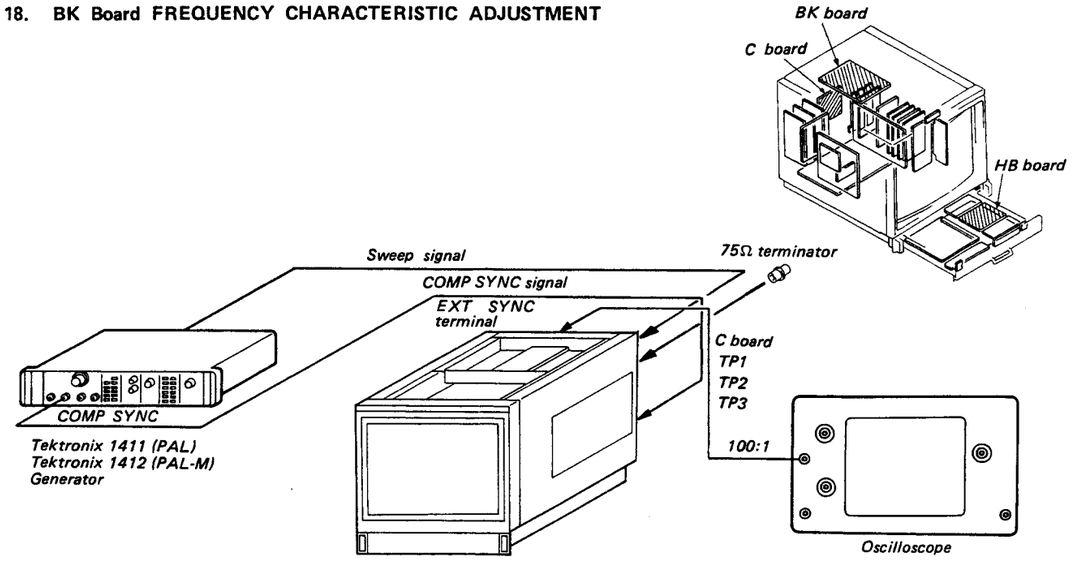



A=B

*Fig. 17-1*



## 18. BK Board FREQUENCY CHARACTERISTIC ADJUSTMENT




1. Input SWEEP signal to VIDEO A terminal of the set, and input COMP SYNC signal to EXT SYNC terminal of the set.
2. • INPUT selector (FRONT PANEL) . . . . . A(⊓)
   • SYNC selector (FRONT PANEL) . . . . . EXT(⊓)
   • MODE selector (FRONT PANEL) . . . . . MONO(⊓)
   • FILTER SW. (HB board S8) . . . . . OFF
3. Connect an oscilloscope to the TP1 on the C board.
   *Probe: 100:1
4. Adjust CV101 and CV102 on the BK board so that output waveform becomes flat in a range of 0 to 10MHz as shown in Fig. 18-1.
5. Connect an oscilloscope to the TP2 on the C board.
6. Adjust CV201 and CV202 on the BK board so that output waveform becomes flat in a range of 0 to 10MHz as shown in Fig. 18-1.
7. Connect an oscilloscope to the TP3 on the C board.
8. Adjust CV301 and CV302 on the BK board so that output waveform becomes flat in a range of 0 to 10MHz as shown in Fig. 18-1.

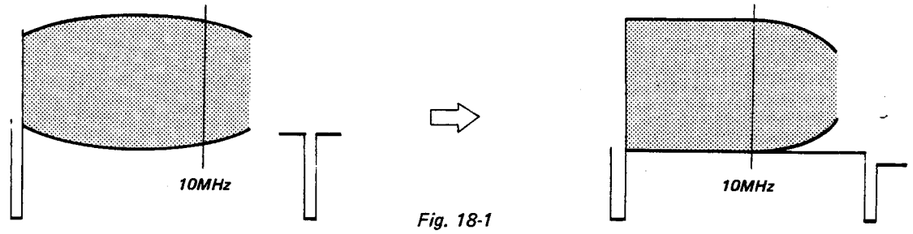
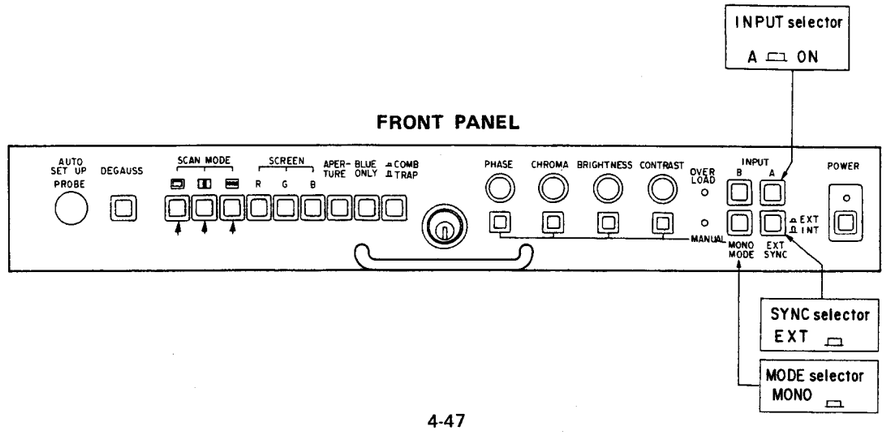
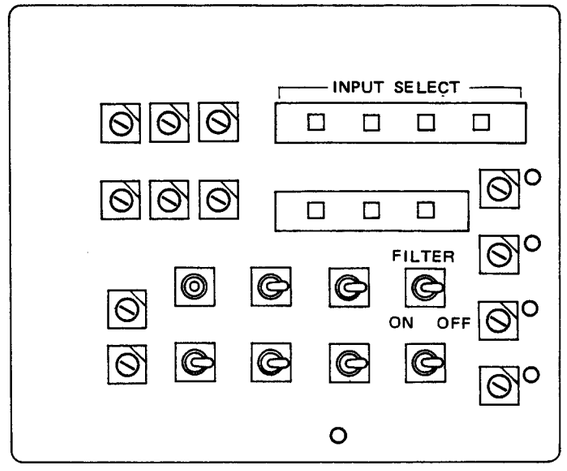



*Fig. 18-1*

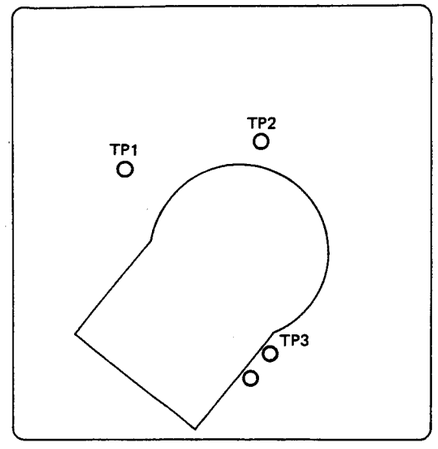




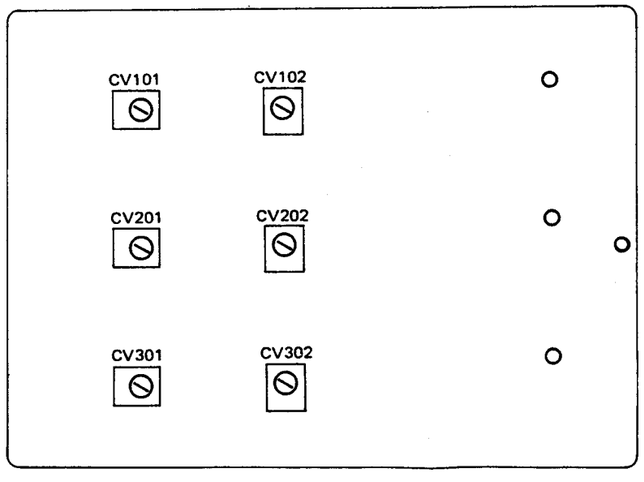

**HB board**




**C board**




**BK board**



## 19. VECTOR OUTPUT ADJUSTMENT

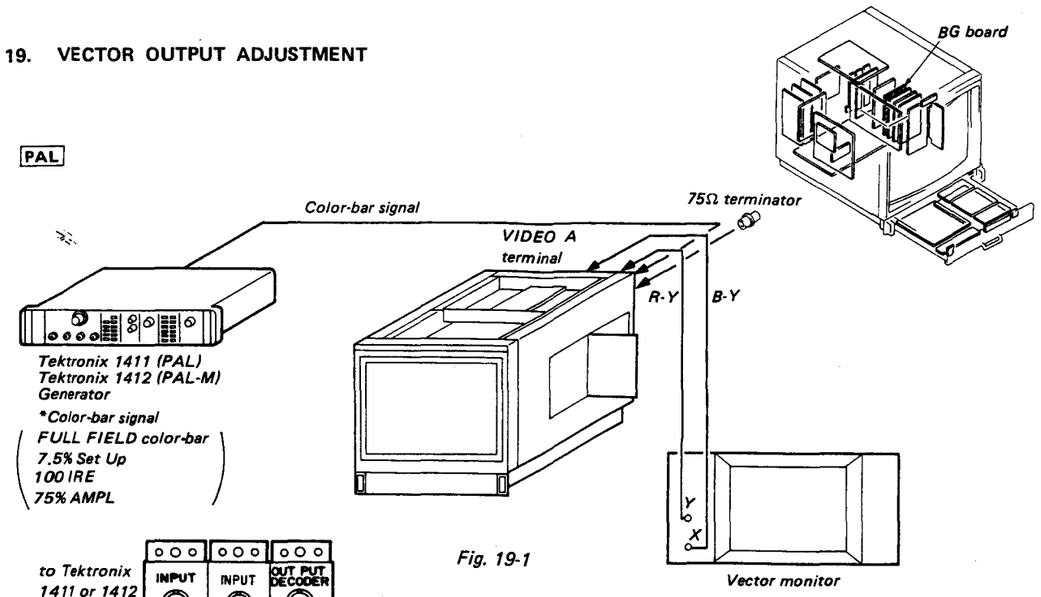
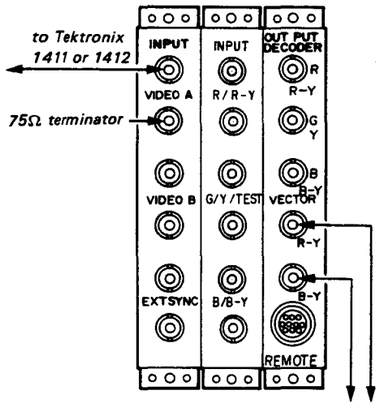
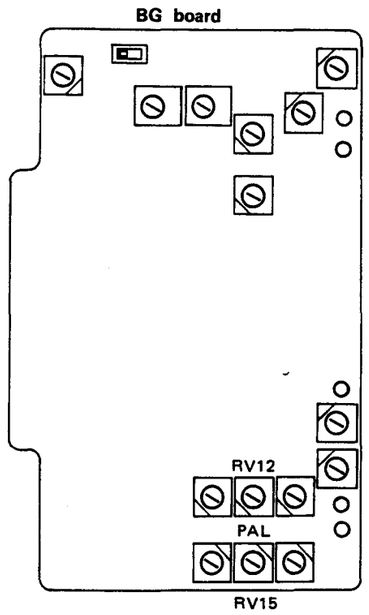



Fig. 19-1




1. Complete the connections as shown in Fig. 19-1.
2. Adjust RV-12 (R-Y) and RV-15 (B-Y) on the BG board so that the areas (6) indicated with arrows Fig. 19-2 enter its center as far as possible.



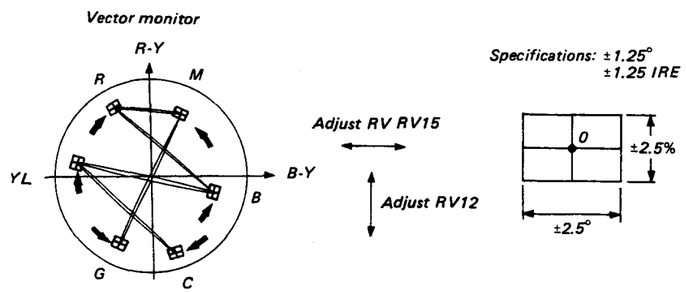
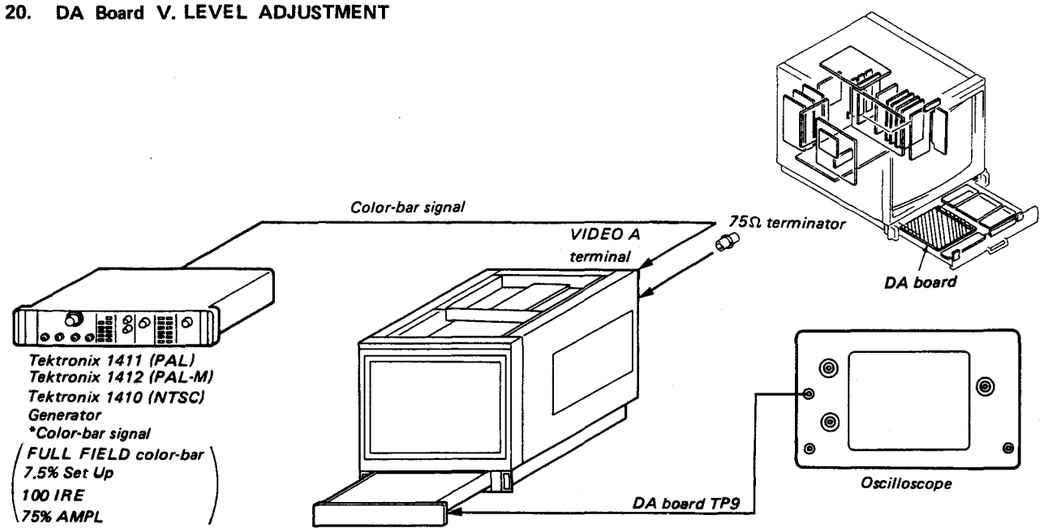




Fig. 19-2



## 20. DA Board V. LEVEL ADJUSTMENT




PAL

1. Input color-bar signal to the VIDEO A terminal of the set.
2. Connect an oscilloscope to the TP9 on the DA board.
3. Adjust RV18 on the DA board so that output waveform is 12.0Vp-p as shown in Fig. 20-1.

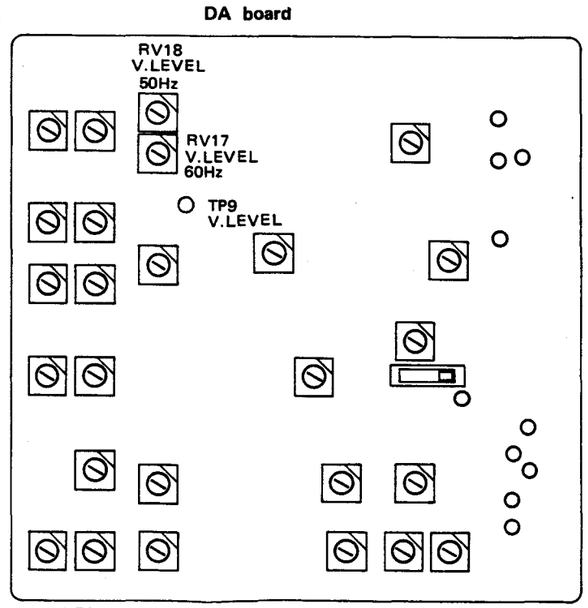



Fig. 20-1

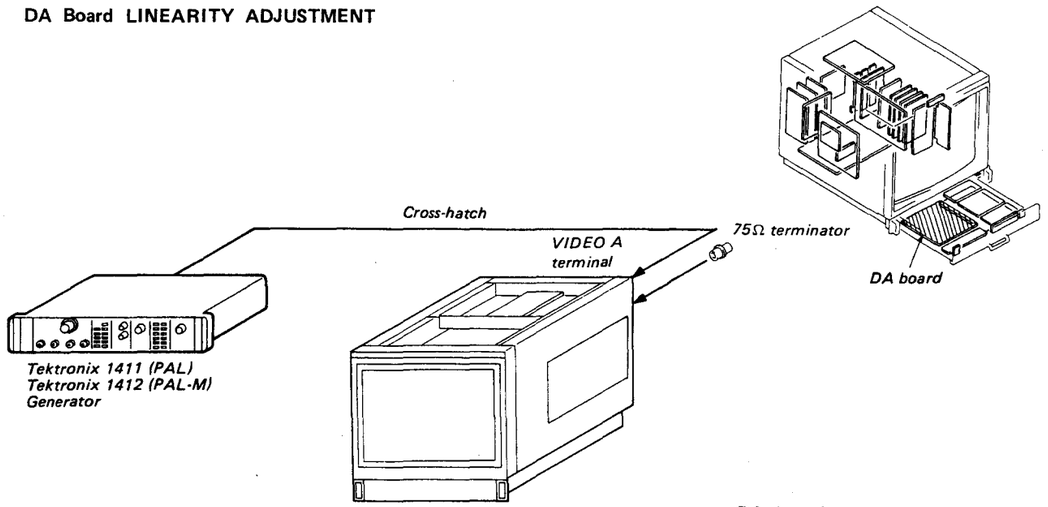
The following adjustment is required when a PAL-M or NTSC system signal is received.

PAL-M NTSC

4. Input color-bar signal (TEK-1412 or TEK-1410) to the VIDEO A terminal of the set.
5. Connect an oscilloscope to the TP9 on the DA board.
6. Adjust RV17 on the DA board so that output waveform is 12.0Vp-p.



## 21. DA Board LINEARITY ADJUSTMENT



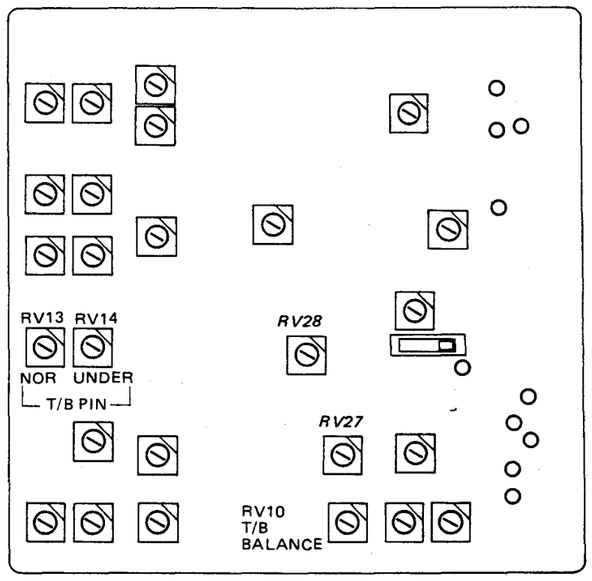

### TOP AND BOTTOM PIN ADJUSTMENT

1. Receive cross-hatch signal and with H-LINE only.
2. Adjust T&B pin distortion H PHASE by turning DA board RV27 (TRAPEZOID) as shown in Fig. 21-1.
3. Adjust T&B pin distortion gain by turning DA board RV13 as shown in Fig. 21-1.
4. Adjust T&B pin distortion vertical balance by turning DA board RV10 as shown in Fig. 21-1.
5. Adjust PARALLELO GRAM distortion by turning DA board RV28 (PARALLEL) as shown in Fig. 21-1.
6. Mark tracking by repeating 2 through 5.
7. UNDER SCAN switch (front panel) UNDER (⏢).
8. Adjust T&B distortion gain by turning DA board RV14.

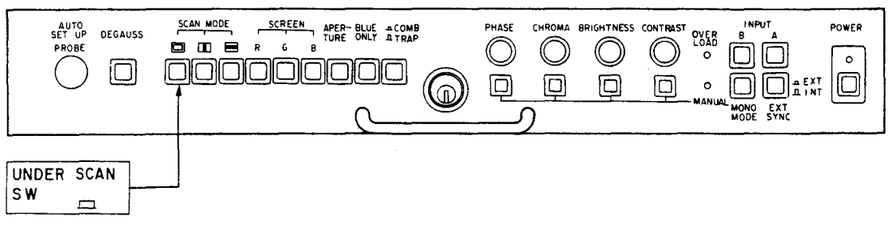



Fig. 21-1

DA board




FRONT PANEL






### V. LINEARITY ADJUSTMENT

1. Receive cross-hatch signal and with H-LINE only.
2. Adjust V. CENTER by turning DA board RV21.
3. Adjust V. LIN BALANCE by turning DA board RV20 as shown in Fig. 21-1.
4. Adjust V. LIN GAIN by turning DA board RV22 as shown in Fig. 21-1.
5. Adjust V. HEIGHT by turning DA board RV23.
6. Mark tracking by repeating steps 2. through 5.

*RV20 . . . . . V LIN BALANCE*

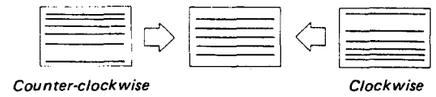



Fig. 21-2

*RV22 . . . . . V LIN GAIN*

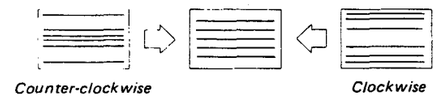



Fig. 21-3

### SIDE PIN ADJUSTMENT

1. Receive cross-hatch signal and with V. LINE only.
2. Adjust SIDE PIN by turning DA board RV15 as shown in Fig. 21-4.
3. Adjust SIDE PIN TILT by turning DA board RV19 as shown in Fig. 21-5.
4. Adjust H. CENTER LINE by turning DA board RV25 as shown in Fig. 21-6.

*RV15 (SIDE PIN)*



Fig. 21-4

*RV19 (SIDE PIN TILT)*

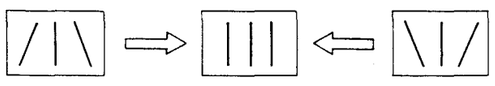


Fig. 21-5

*RV25 (H. CENTER LINE)*

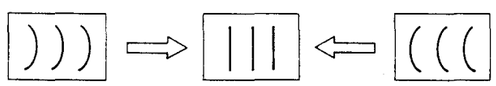
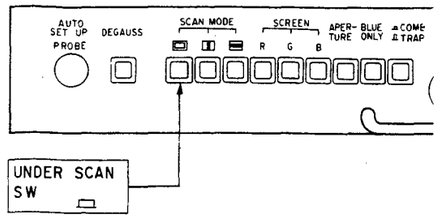


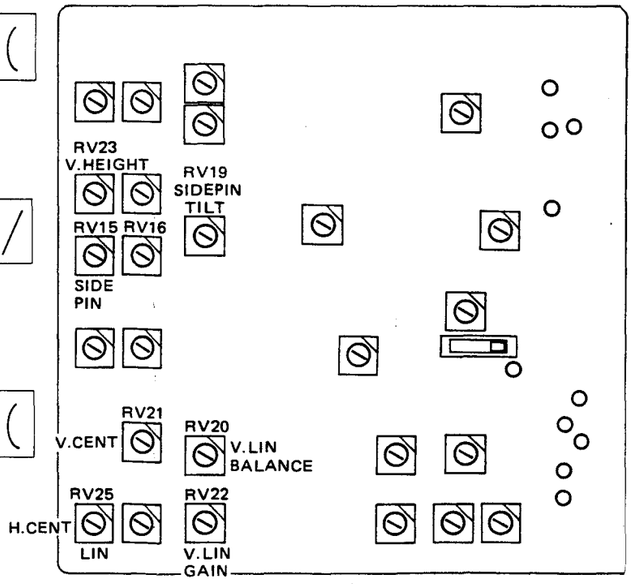
Fig. 21-6

5. UNDER SCAN switch (Front panel (L)) . . . . UNDER (⏢)
6. Adjust SIDE PIN by turning DA board RV16.

FRONT PANEL




DA board



**H. LINEARITY ADJUSTMENT**

1. Receive cross-hatch signal and with V-LINE only.
2. Adjust H. LINEARITY by turning DA board RV6 (H LIN GAIN) as shown in Fig. 21-7.

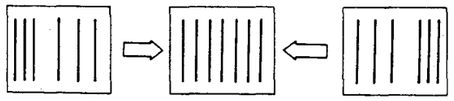
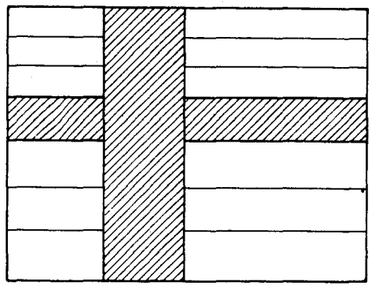


*Fig. 21-7*

## 22. H. FREQ ADJUSTMENT

1. Receive cross-hatch signal, and SYNC selector to EXT( ⏛ )
2. Adjust until the picture stops drifting or moves slowly by turning DA board RV5 as shown in Fig. 22-1.



* Adjust so that the picture either stops drifting or moves slowly.

*Fig. 22-1*

## 23. DA Board H.CENTER, BLK, H.PHASE ADJUSTMENT

1. Receive monoscope signal, and UNDER SCAN switch to UNDER (⏍).
2. Picture tube
   - V. DELAY switch . . . . . IN (⏍)
3. Adjust RV1 and RV7 on the DA baord so that the raster can all be seen by RV1 and RV7 as shown in Fig. 23-1.

**H. CENTER**

4. Adjust RV26 on the DA board so that the out side portions of the raster become equal to at the right and the left sides as shown in Fig. 23-1.

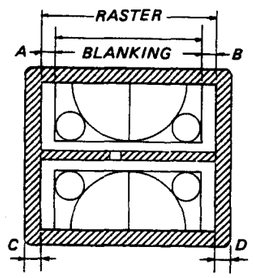



*Fig. 23-1*

**H. BLK Adjustment**

5. Connect an oscilloscope to the TP1 on the DA board.
6. Adjust RV1 on the DA board so that the H. BLK pulse width is 9.8μs. Fig. 23-2.

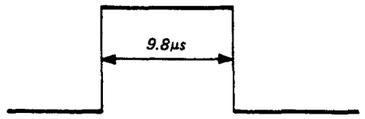
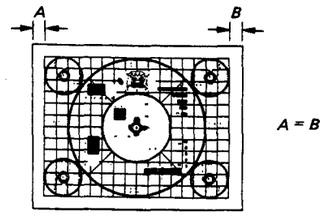



*Fig. 23-2*

**H. BLK PHASE Adjustment**

7. Adjust RV7 on the DA board so that the blanking width at the right and the left sides are equal to as shown in Fig. 23-3.

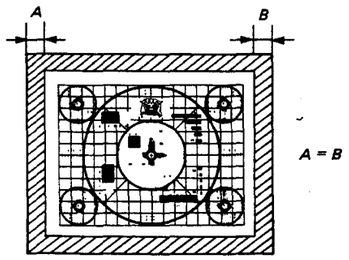



*monoscope pattern*

*Fig. 23-3*

**H. PHASE Adjustment**

8. Adjust RV26 on the DA board so that the outside raster portions of the picture become equal at the right and the left sides as shown in Fig. 23-4.

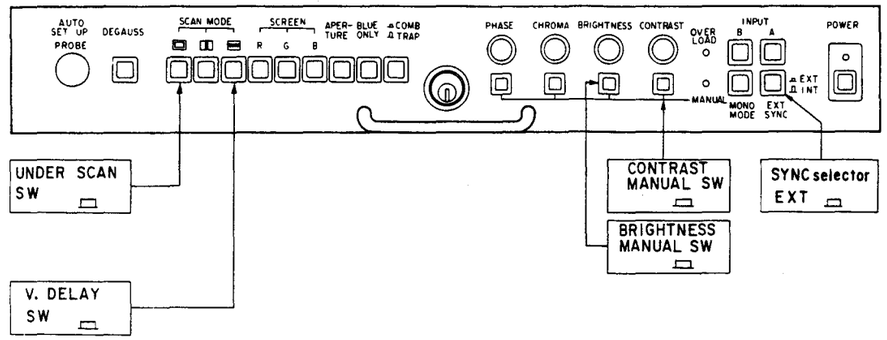



*monoscope pattern*

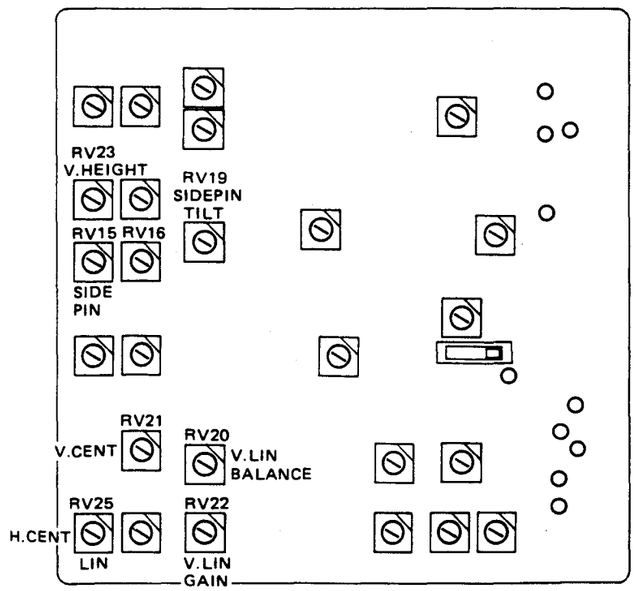
*Fig. 23-4*



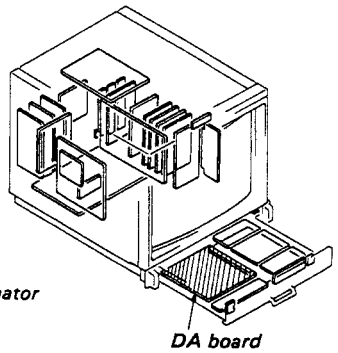
**FRONT PANEL**




**DA board**



## 24. DA Board H DELAY POSITION ADJUSTMENT



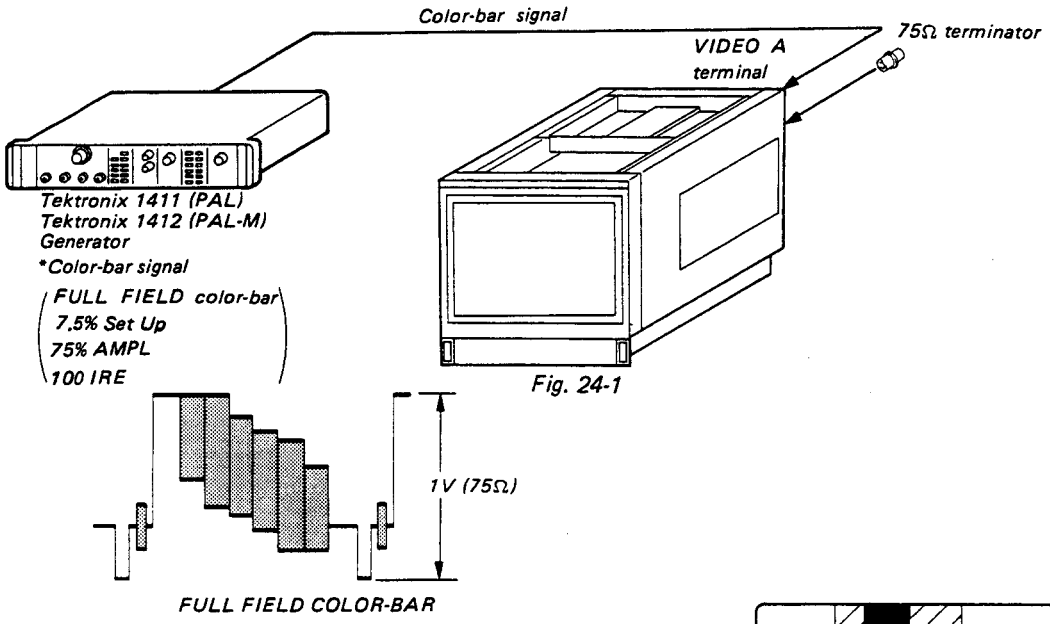




Fig. 24-1

### H. DELAY PULSE WIDTH ADJUSTMENT

1. Connect an oscilloscope to the TP2 on the DA board.
2. Adjust RV3 on the DA board so that PULSE width is equal when switching H-DELAY switch IN and OUT.

### H. DELAY POSITION

1. Connect as shown in Fig. 24-1.
2. Turn the INPUT selector to "A" ( ⊓ ) SYNC selector to "INT" ( ⊓ ) and, H DELAY & V DELAY SW to "IN" ( ⊓ ) (pulse close position).
3. Adjust the H-DELAY position as shown in Fig. 24-2 by turning DA Board RV2.

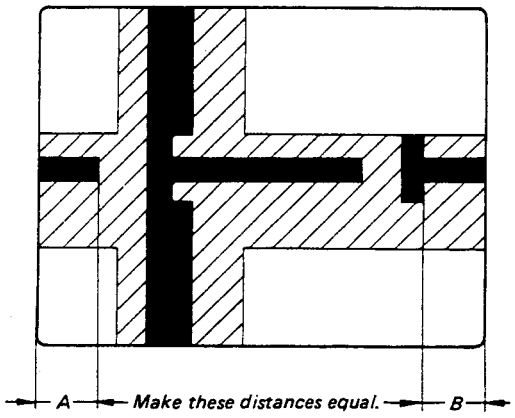
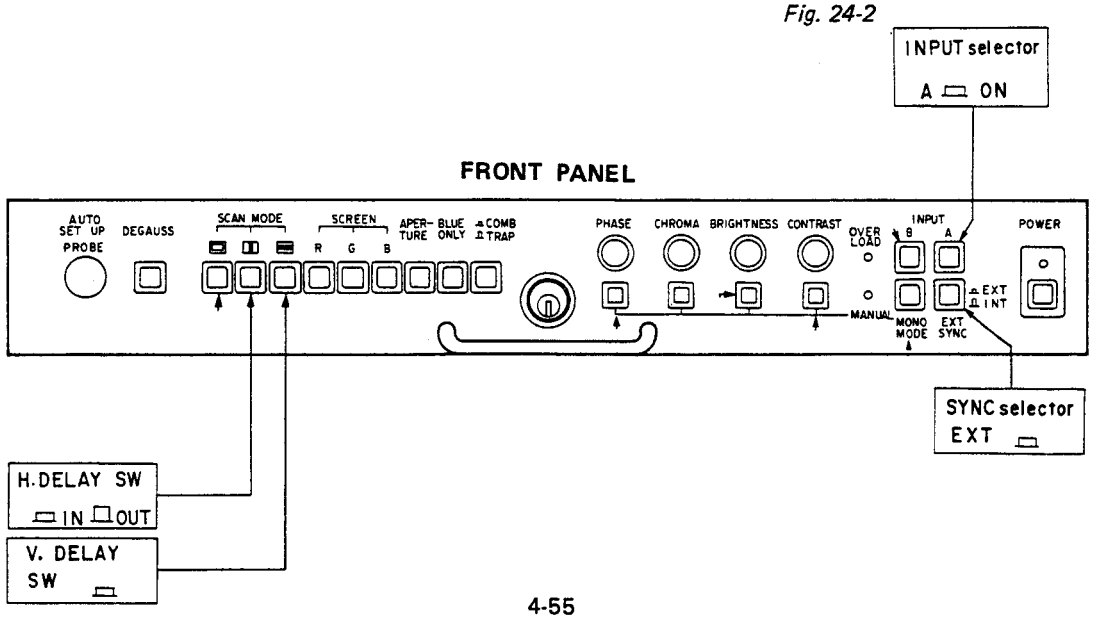
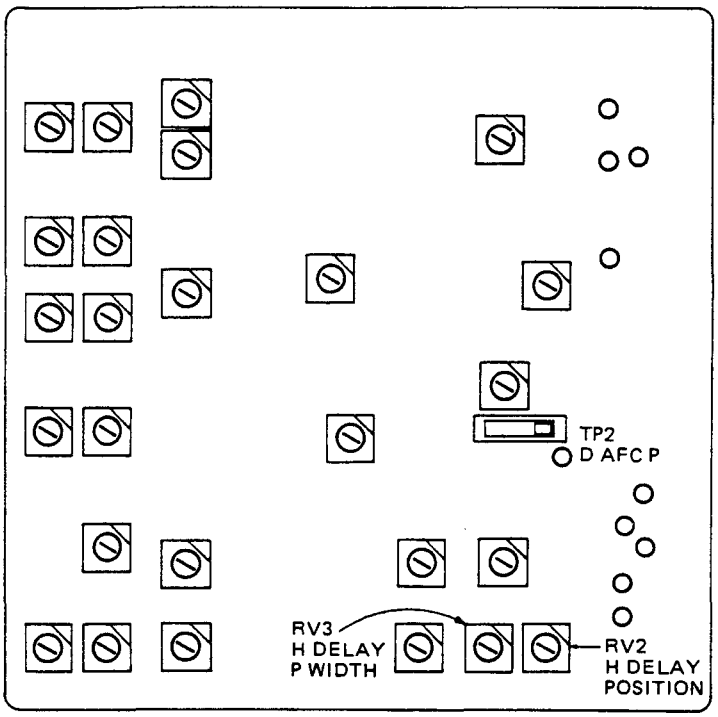


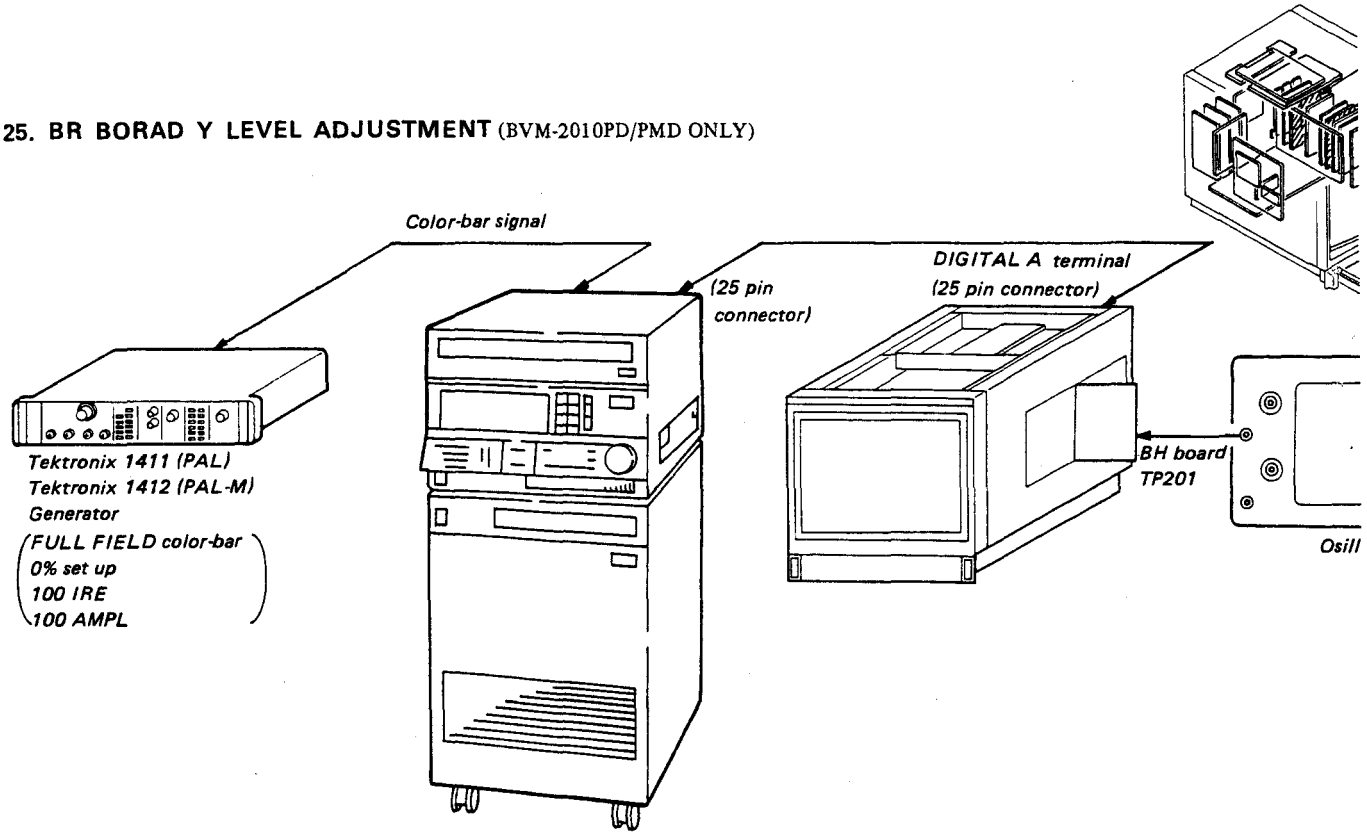

Fig. 24-2



DA board



## 25. BR BORAD Y LEVEL ADJUSTMENT (BVM-2010PD/PMD ONLY)




1. Receive color-bar signal (100/0/100).
   - COLOR STANDARD SELECTOR (SUB CONTROL PANEL) ..... DIGITAL (NTSC)
   - DIGITAL TV STANDARD SELECTOR (BR BOARD S1) .....LOWER (625/50)
   - COLOR STANDARD SELECTOR (BR BOARD S3) ..... UPPER (NTSC)

2. Connect an oscilloscope to TP201 on the BH board.
3. Adjust with RV301 on the BR board so that the levels of A and B become equivalent as shown in Fig. 29-1.

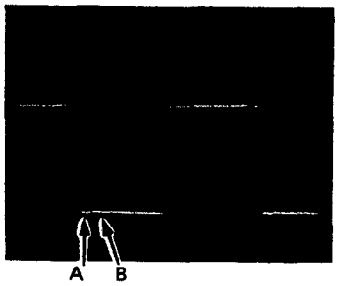
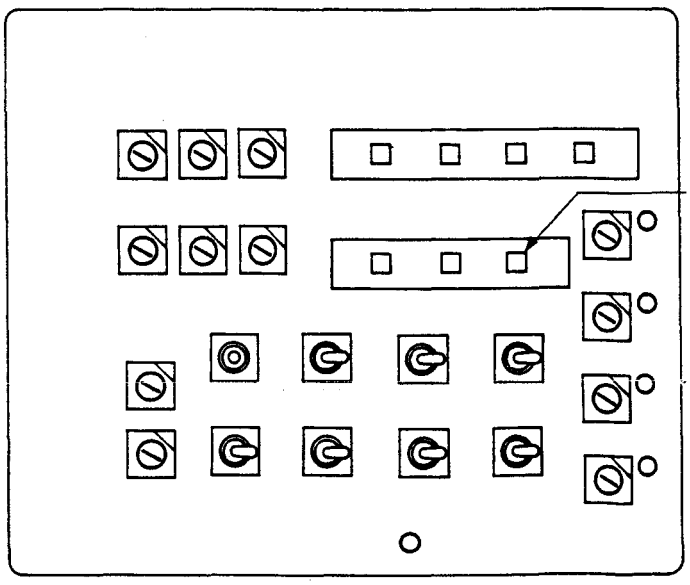



*Fig. 29-1*

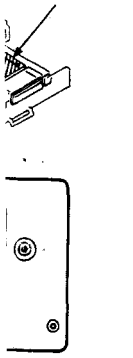
**HB BOARD**

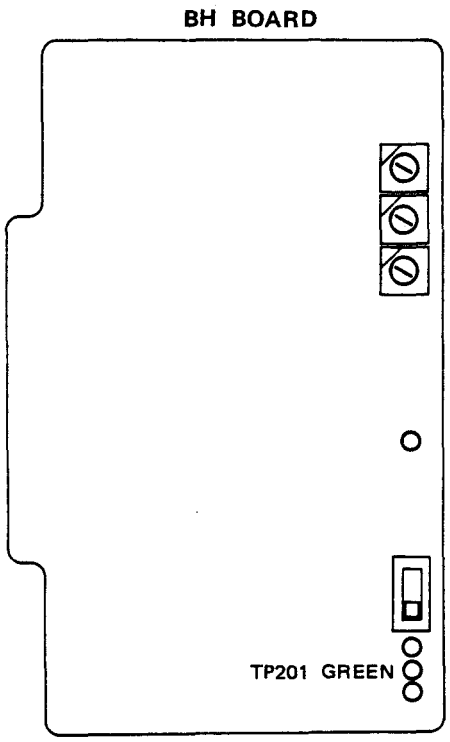


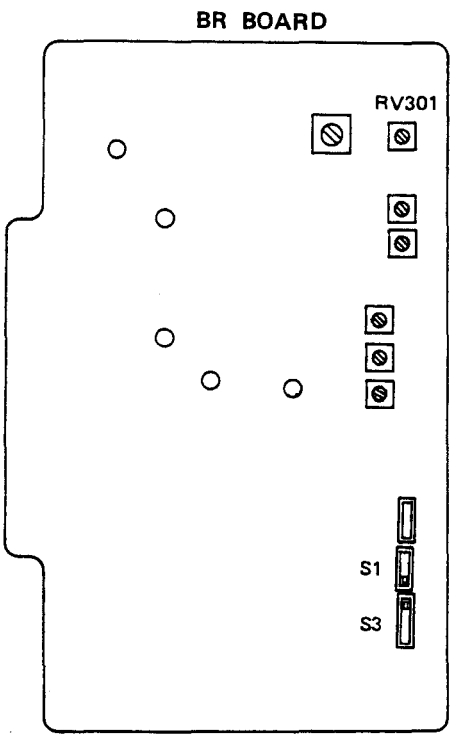
board

BH board

HB board

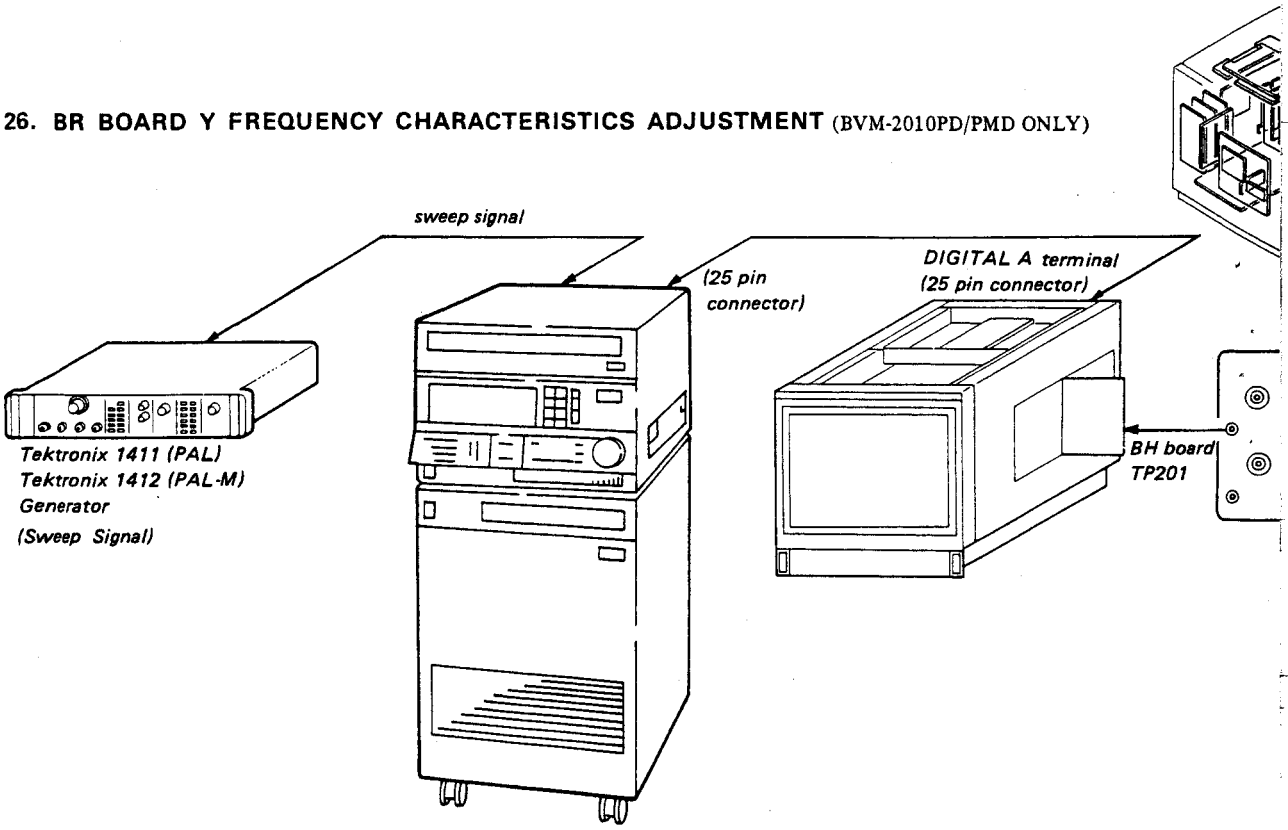





AL ON

## 26. BR BOARD Y FREQUENCY CHARACTERISTICS ADJUSTMENT (BVM-2010PD/PMD ONLY)




1. Receive sweep signal.
   - COLOR STANDARD SELECTOR (SUB CONTROL PANEL)
     ..... DIGITAL (NTSC)
   - DIGITAL TV STANDARD SELECTOR (BR BOARD S1)
     ..... LOWER (625/50)
   - COLOR STANDARD SELECTOR (BR BOARD S3)
     ..... UPPER (NTSC)
2. Connect an oscilloscope to TP201 on the BH board.
3. Adjust with CV301 on the BR board so that the output waveform of 0 to 5 MHz range becomes flat as shown in Fig. 30-1.

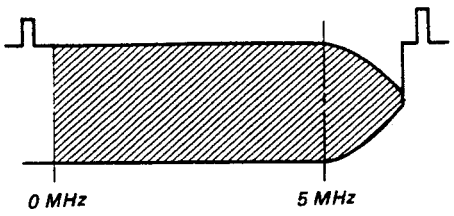
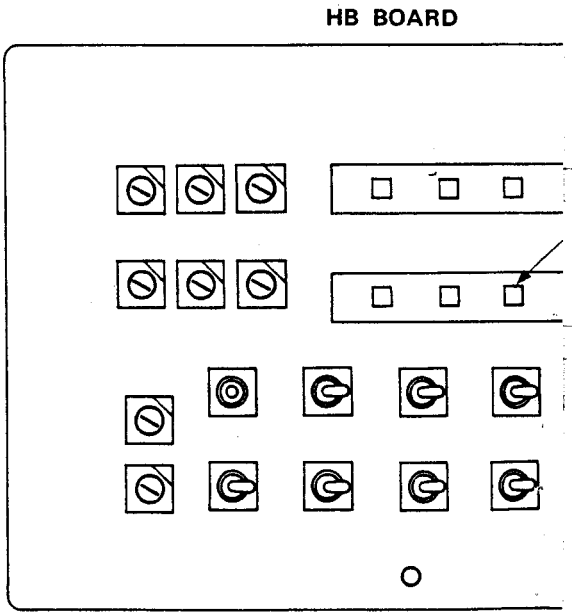
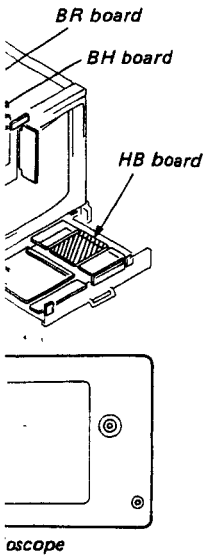
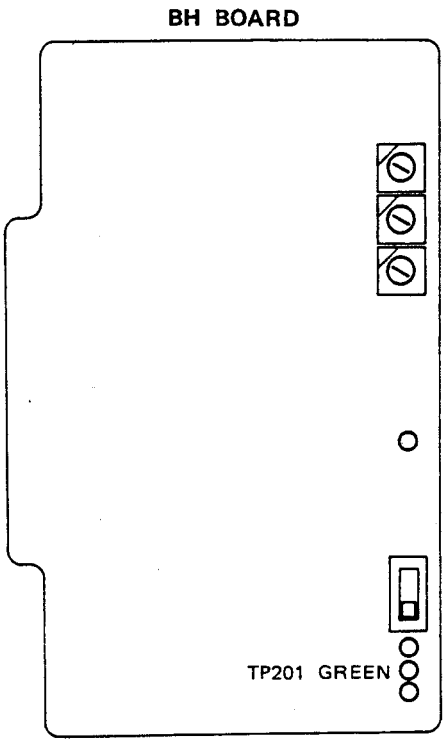
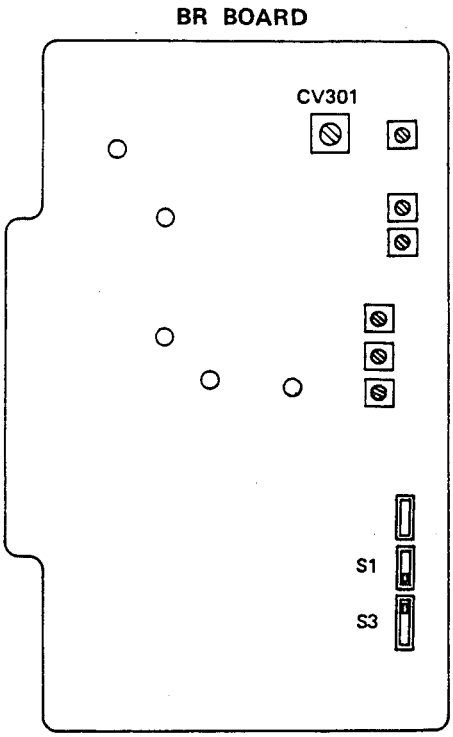


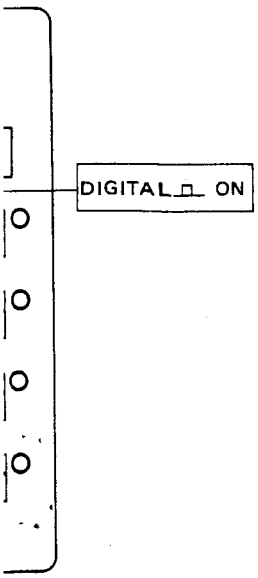

*Fig. 30-1*



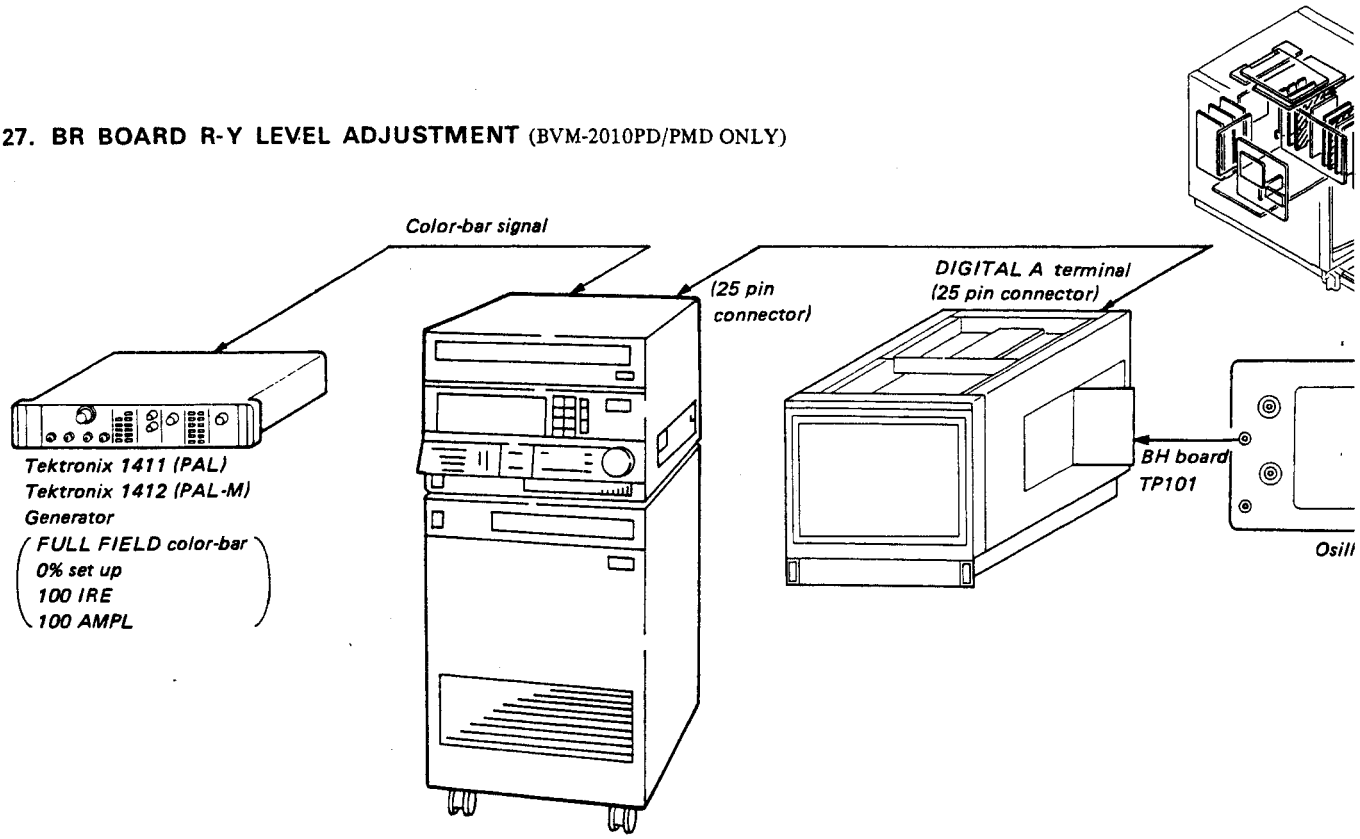

BR board
BH board
HB board
oscope


BH BOARD
TP201 GREEN


BR BOARD
CV301
S1
S3


DIGITAL ⊓ ON

## 27. BR BOARD R-Y LEVEL ADJUSTMENT (BVM-2010PD/PMD ONLY)




1. Receive color-bar signal (100/0/100).
   - COLOR STANDARD SELECTOR (SUB CONTROL PANEL) . . . . . .DIGITAL (NTSC)
   - DIGITAL TV STANDARD SELECTOR (BR BOARD S1) . . . . . LOWER (625/50)
   - COLOR STANDARD SELECTOR (BR BOARD S3) . . . . . .UPPER (NTSC)
2. Connect an oscilloscope to TP101 on the BH board.
3. Adjust with RV101 on the BR board so that it becomes as shown in Fig. 31-1.

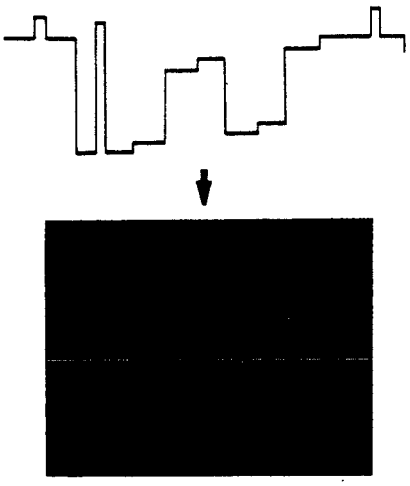
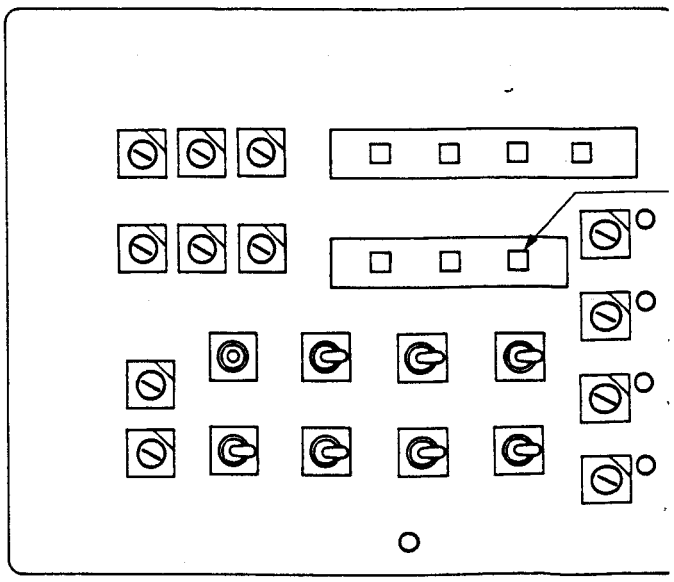


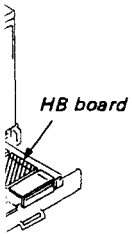
*Fig. 31-1*

**HB BOARD**



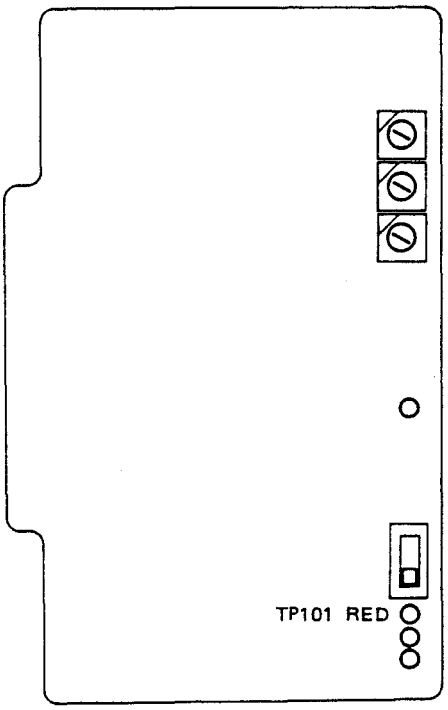
board

BH board

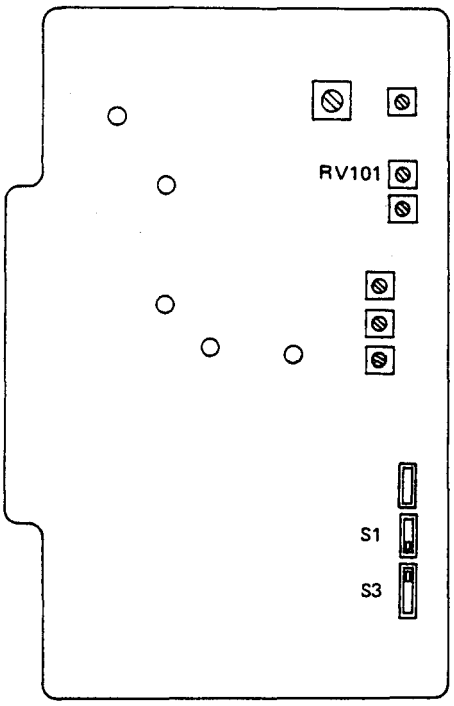





BH BOARD

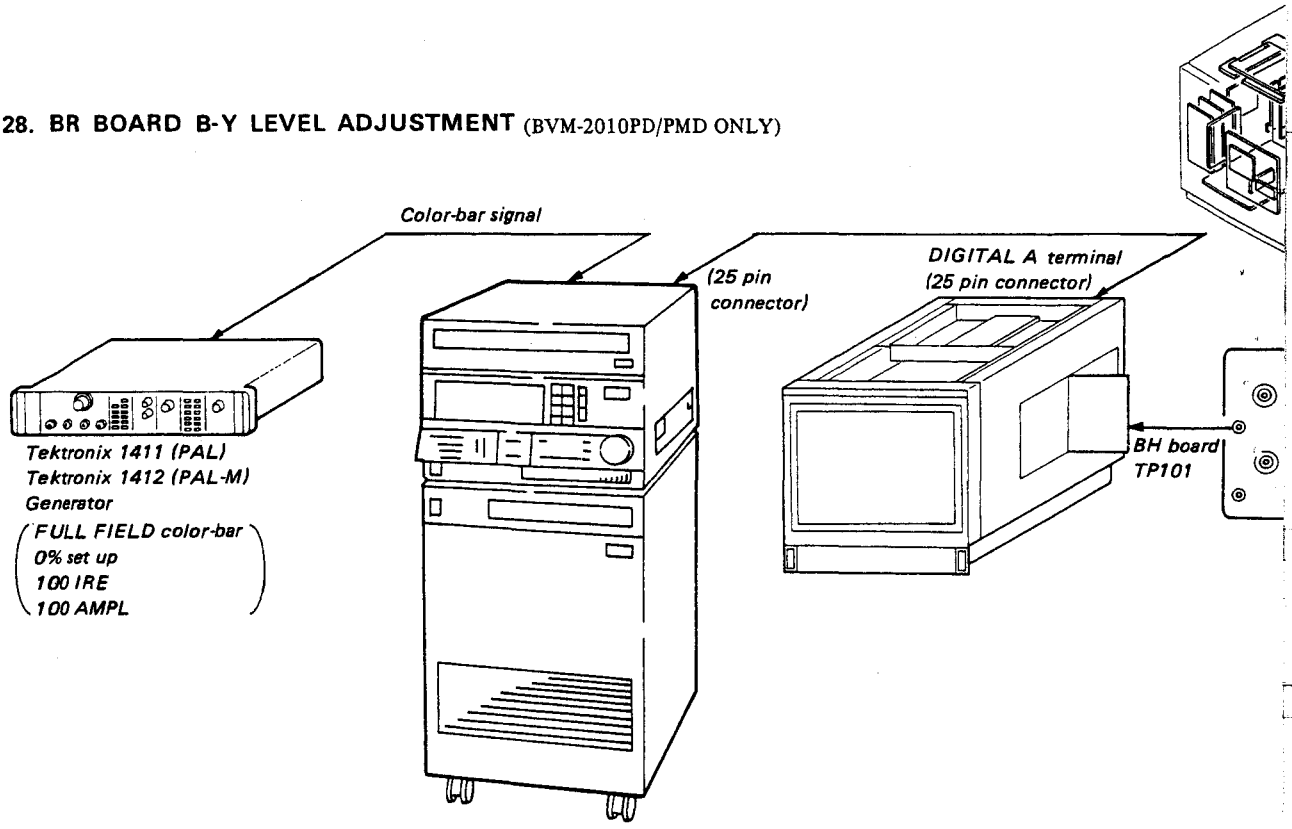



BR BOARD




TAL ⊓ ON

## 28. BR BOARD B-Y LEVEL ADJUSTMENT (BVM-2010PD/PMD ONLY)




1. Receive color-bar signal.
   - COLOR STANDARD SELECTOR (SUB CONTROL PANEL) ..... DIGITAL (NTSC)
   - DIGITAL TV STANDARD SELECTOR (BR BOARD S1) ..... LOWER (625/50)
   - COLOR STANDARD SELECTOR (BR BOARD S3) ..... UPPER (NTSC)
2. Connect an oscilloscope to TP301 on the BH board.
3. Adjust with RV201 so that it becomes as shown in Fig. 32-1.

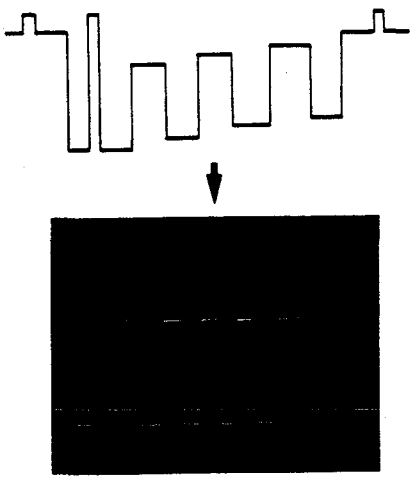
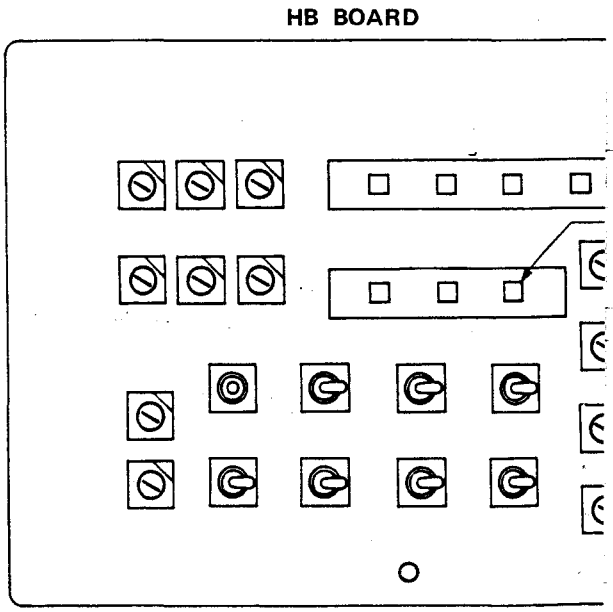
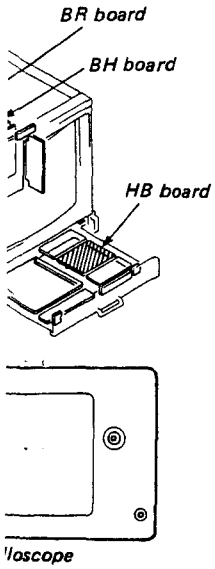
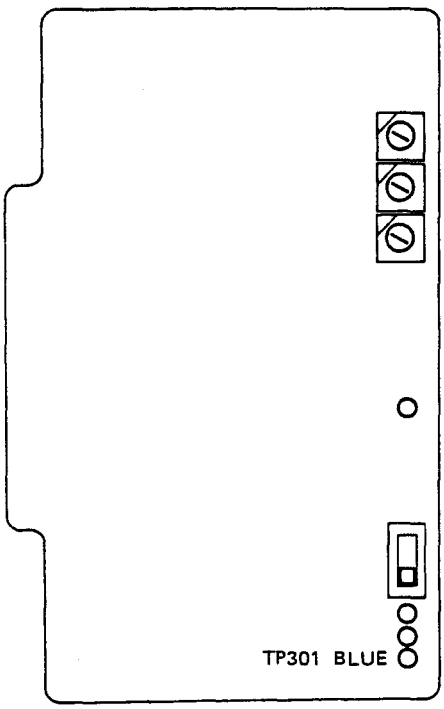


*Fig. 32-1*

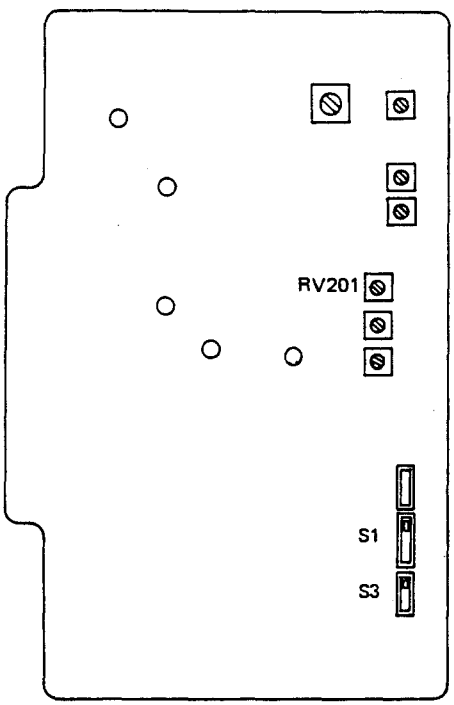





BH BOARD

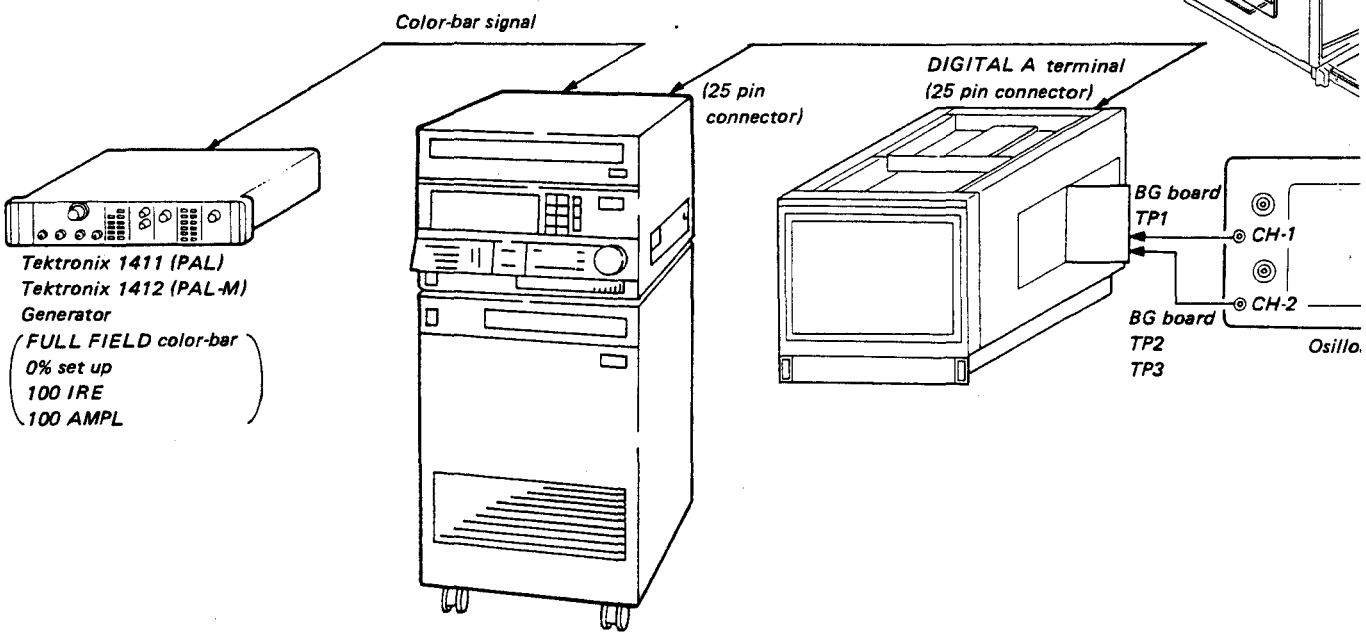



BR BOARD




DIGITAL ON

## 29. BR BOARD Y-(R-Y) [Y-(B-Y)] DELAY TIME ADJUSTMENT (BVM-2010PD/PMD ONLY)




*4 : 2 : 2 Component Digital VTR*
*DVR-1000/DVPC-1000*

1. Receive color-bar signal.
   - COLOR STANDARD SELECTOR (SUB CONTROL PANEL) ..... DIGITAL (NTSC)
   - DIGITAL TV STANDARD SELECTOR (BR BOARD S1) ..... LOWER (625/50)
   - COLOR STANDARD SELECTOR (BR BOARD S3) ..... UPPER (NTSC)
2. Connect CH1 probe of oscilloscope to TP1 on the BG board and CH2 probe to TP2 (TP3) on the BG board.
3. Adjust the respective positions of oscilloscope so that the waveform of CH1 becomes a = a' and that of CH2 becomes b = b' against the center scale as shown in Fig. 33-1.
4. Enlarge a – a' and b – b' sections in Fig. 33-1.
5. Adjust with RV102 and RV202 on the BR board so that the intersecting point of waveforms CH1 and CH2 becomes on the center scale.

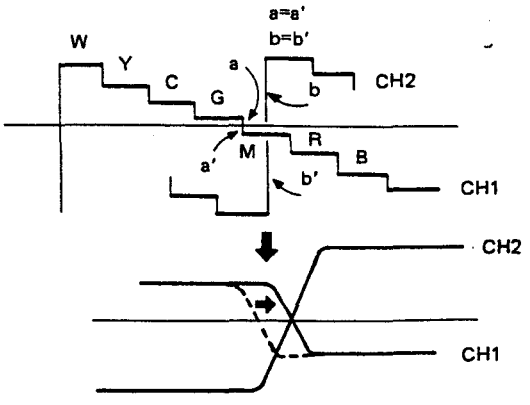
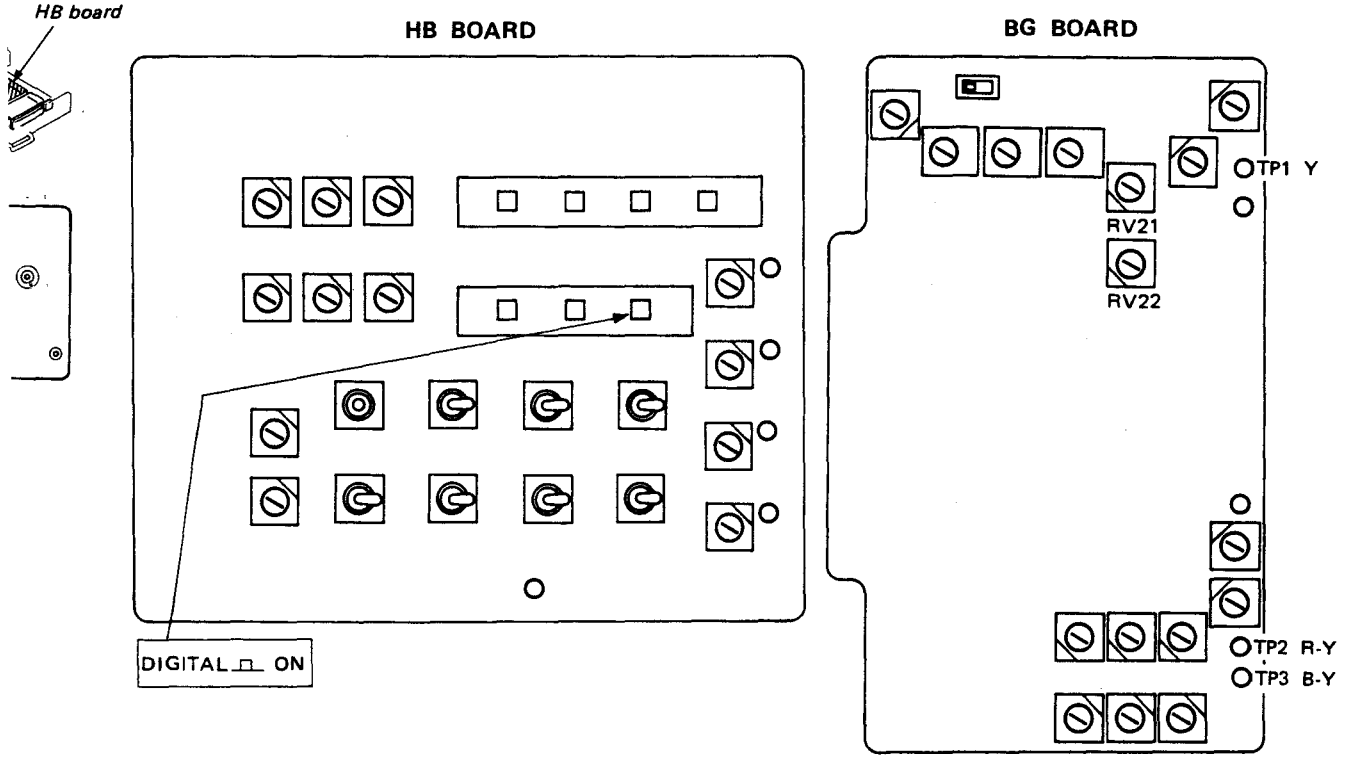


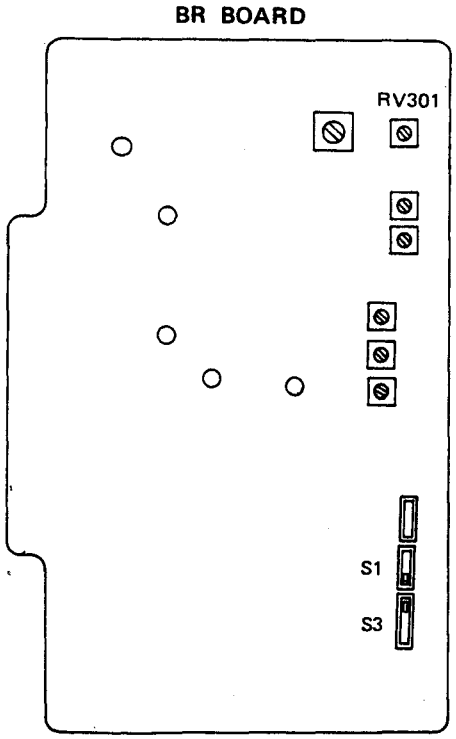

*Fig. 33-1*

*board*

*BG board*

*HB board*

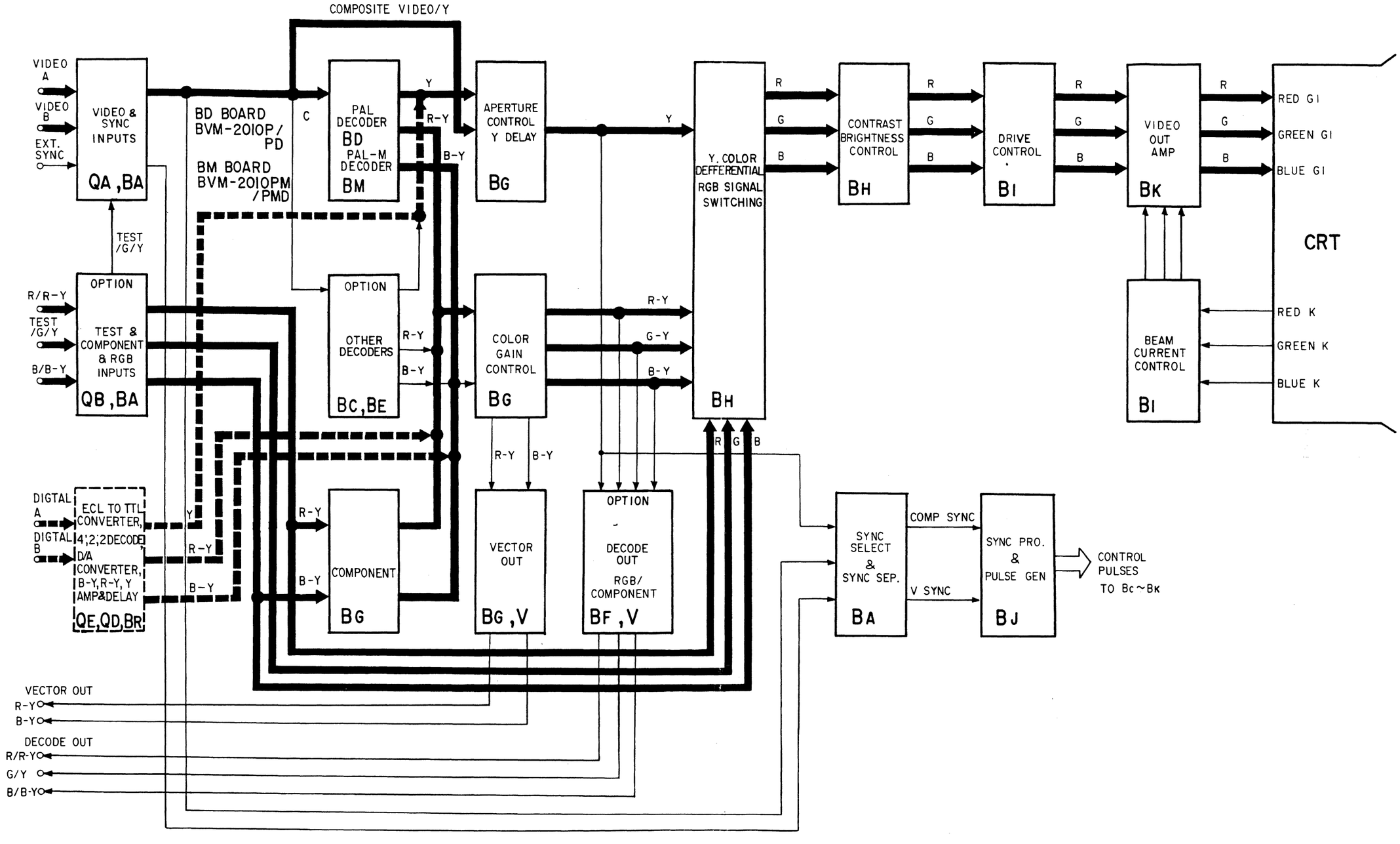


# SECTION 5
# DIAGRAMS

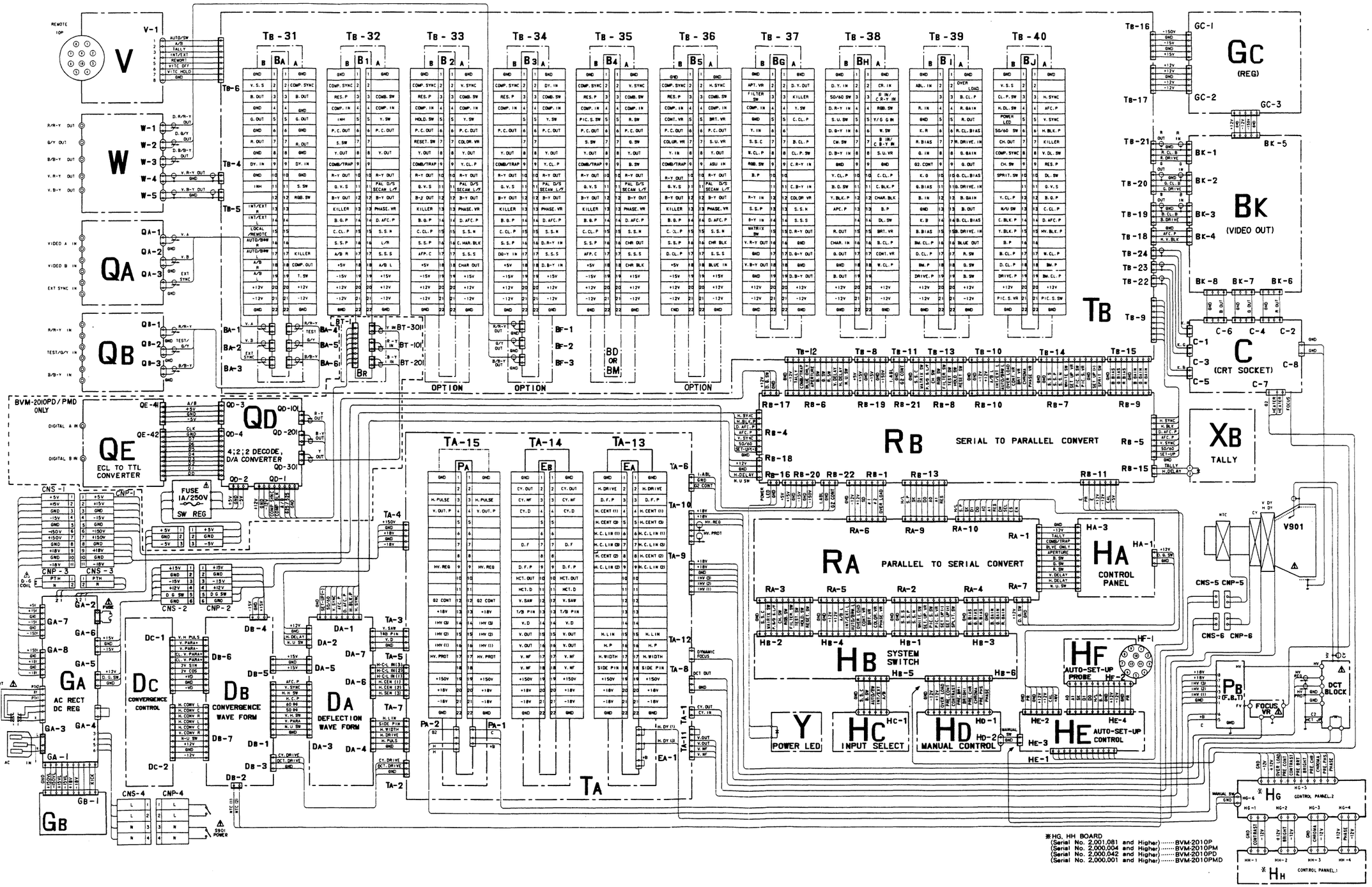
## 5-1. BLOCK DIAGRAM
## SIGNAL PROCESSING BLOCK DIAGRAM

*■■■■ BVM-2010PD/PMD only



## 5-2. FRAME WIRING DIAGRAM

FRAME FRAME



## 5-3. MOUNTING AND SCHEMATIC DIAGRAMS

**Note:**

**Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

- All capacitors are in μF unless otherwise noted. p : μμF 50 WV or less are not indicated except for electrolytics.
- All resistor are in ohms, 1/2W on the C board and 1/4W on the rest of the boards unless otherwise specified. kΩ = 1000Ω, MΩ = 1000kΩ
- : nonflammable resistor.
- △ : internal component.
- : direct connection to points marked on the chassis
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ▣ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
  When replacing components identified by ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ▣ and repeat the adjustment until the specified value is achieved.
  Refer to **R52, R53, R67, R68, R124, R126, R222, R227, R228 and R239.**
  Adjust on page 4-11 ~ 4-16.
  When replacing the part in below table, be sure to perform the related adjustment.
- ※ Selected to yield optimum performance.

**Reference information**

| | | | |
|---|---|---|---|
| RESISTOR | : | RN | METAL FILM |
| | : | RC | SOLID |
| | : | FPRD | NONFLAMMABLE CARBON |
| | : | FUSE | NONFLAMMABLE FUSIBLE |
| | : | RS | NONFLAMMABLE WIREWOUND |
| | : | RB | NONFLAMMABLE CEMENT |
| COIL | : | LF-8L | MICRO INDUCTOR |
| CAPACITOR | : | TA | TANTALUM |
| | : | PS | STYROL |
| | : | PP | POLYPROPYLENE |
| | : | PT | MYLAR |
| | : | MPS | METALIZED POLYESTER |
| | : | MPP | METALIZED POLYPROPYLENE |
| | : | ALB | BIPOLAR |
| | : | ALT | HIGH TEMPERATURE |
| | : | AIR | HIGH RIPPLE |

| Part replaced ( ◪ ) | Adjustment ( ▣ ) |
|---|---|
| C59, IC3, R67, R68, R78, RV2 . . . (GA board) | +B MAX (R67, R68) Page 4-11. |
| Q13, Q14, R52, R53 . . . . . (GA board)<br>D5, D6, D7, D8, Q3, Q4, Q5, R4, R5, R19, R20, R21, R22 . . . (GB board) | +B PROTECTOR (R52, R53) Page 4-11. |
| D216, IC1, IC4, R123, R124, R125, R126, R136, R137, R138, R203, R204, RV1 . . . (PA board)<br>DCT BLOCK | HV REG (R124, R126) Page 4-16. |
| D205, D207, D215, IC2, R201, R202, R213, R214, R225, R226, R227, R228, R243, R245 . . . . . (PA board)<br>DCT BLOCK | HV HOLD DOWN (R227, R228) Page 4-14. |
| D205, D206, D215, IC2, R201, R202, R213, R214, R220, R221, R222, R223, R224, R242 . . . (PA board)<br>T1 (FBT), R1, R2, R5 . . . . (PB board) | BEAM CURRENT PROTECTOR-1 (R222) Page 4-11~4-13. |
| D204, D216, IC3, R203, R204, R231, R232, R237, R238, R239, R240, R241, R247 . . . (PA board)<br>T1 (FBT), R3, R4, R6 . . . . (PB board) | BEAM CURRENT PROTECTOR-2 (R239) Page 4-12~4-13. |

- : adjustment for repair.
- ——— : B+ bus.
- — — — : B− bus.
- Circled numbers are waveform references.
- Waveforms are taken with a color-bar signal input and with a 75Ω terminator connected to an open terminal.



- Switches and controls are set as follows unless otherwise noted.

FRONT PANEL

| | | | |
|---|---|---|---|
| 1. | INPUT selector . . . . . | A | HC board |
| 2. | SYNC selector . . . . . | INT | |
| 3. | MODE selector . . . . . | AUTO | |
| 4. | CONTRAST MANUAL switch . . | PRESET | HG board (HD) |
| 5. | BRIGHTNESS MANUAL switch . | PRESET | |
| 6. | CHROMA MANUAL switch . . . | PRESET | |
| 7. | PHASE MANUAL switch . . . . . | PRESET | |
| 8. | SCAN MODE switch | | HA board |
| | ▣ UNDER SCAN . . . . . | NOR | |
| | ◧ H. DELAY . . . . . | NOR | |
| | ▤ V. DELAY . . . . . | NOR | |
| 9. | SCREEN switch (R) . . . . . | NOR | |
| 10. | SCREEN switch (G) . . . . . | NOR | |
| 11. | SCREEN switch (B) . . . . . | NOR | |
| 12. | APT switch . . . . . | NOR | |
| 13. | BLUE ONLY switch . . . . . | NOR | |
| 14. | COMB/TRAP filter selector . . . . | TRAP | |

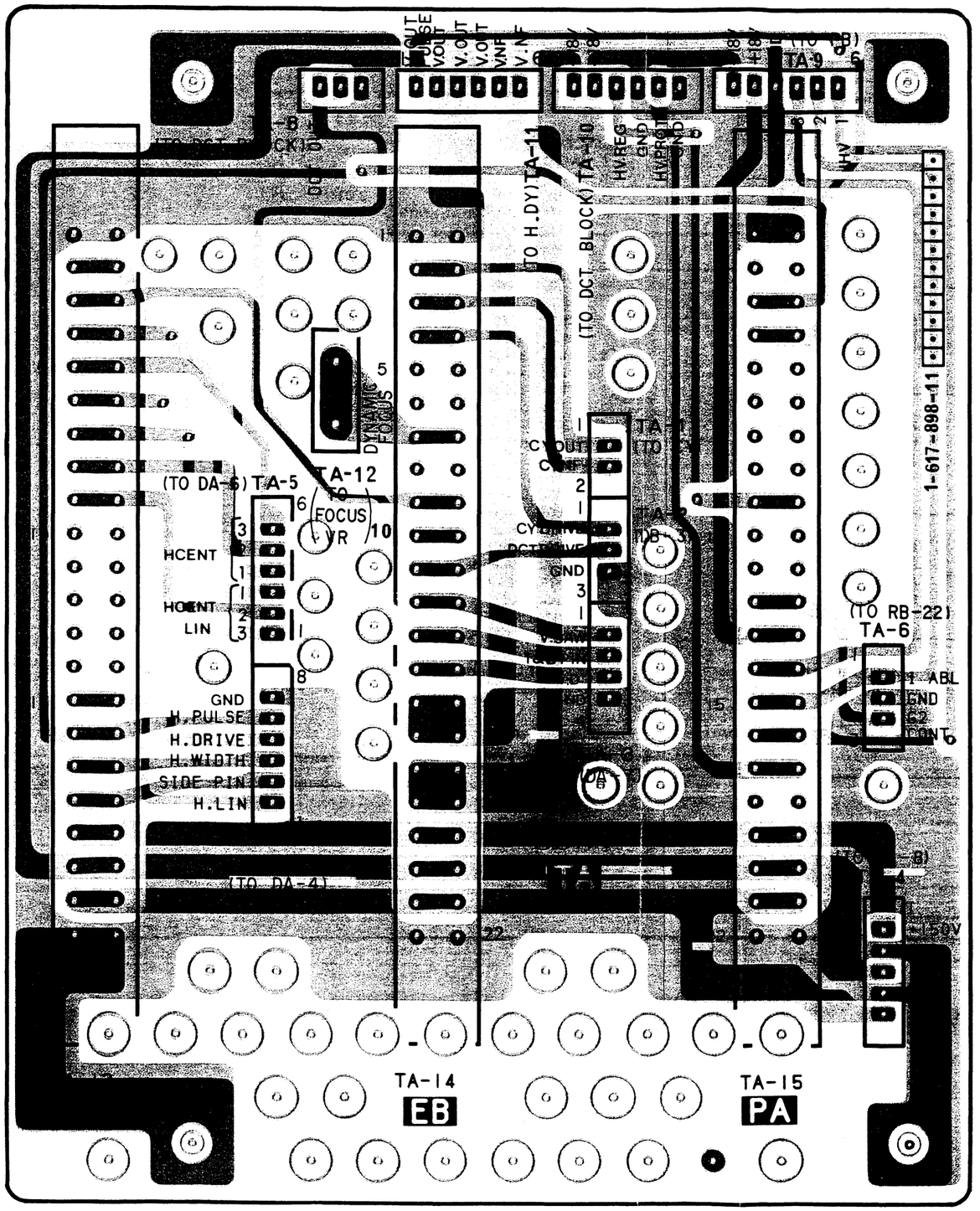
SUB CONTROL PANEL

| | | | |
|---|---|---|---|
| 15. | INPUT SELECT buttons . . . . . | B | HB board |
| 16. | COLOR STANDARD buttons . . | NTSC | |
| 17. | FILTER switch . . . . . | OFF | |
| 18. | MATRIX switch . . . . . | OFF | |
| 19. | PAL/SECAM mode selector . . . . | D(L) | |
| 20. | WHITE/OPERATE/SET UP selector . . . . . | OPERATE | |
| 21. | SPRIT SCREEN switch . . . . . | OFF | |
| 22. | CROSS HATCH switch . . . . . | OFF | |
| 23. | VITC switch . . . . . | OFF | |
| 24. | PIC. SET UP switch . . . . . | OFF | |
| 25. | AFC switch . . . . . | 2m sec | DA board |

**Note:**

- : **Conductor side pattern**
- : **Component side pattern**

TA board (MOTHER BOARD)

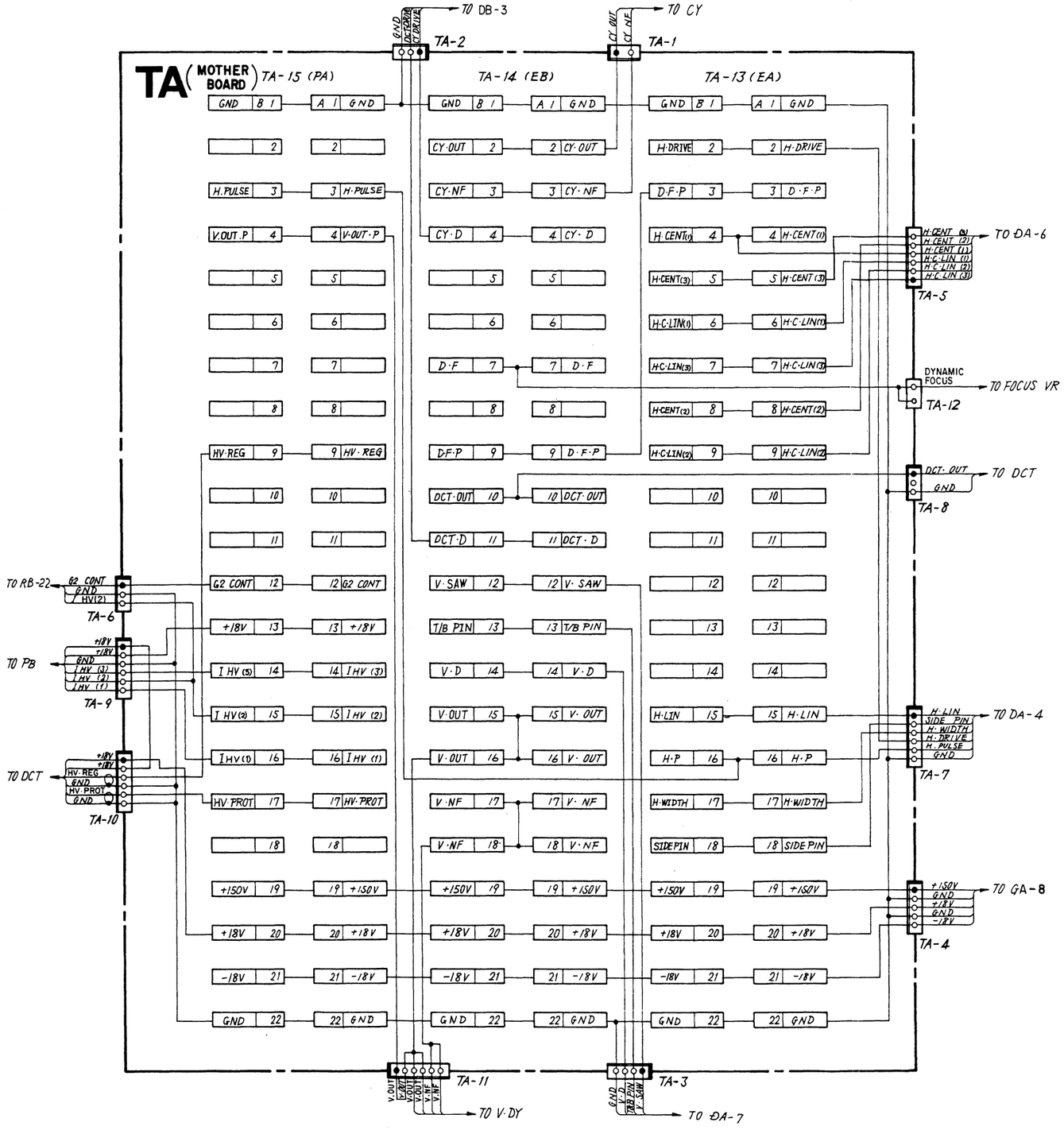



5-7

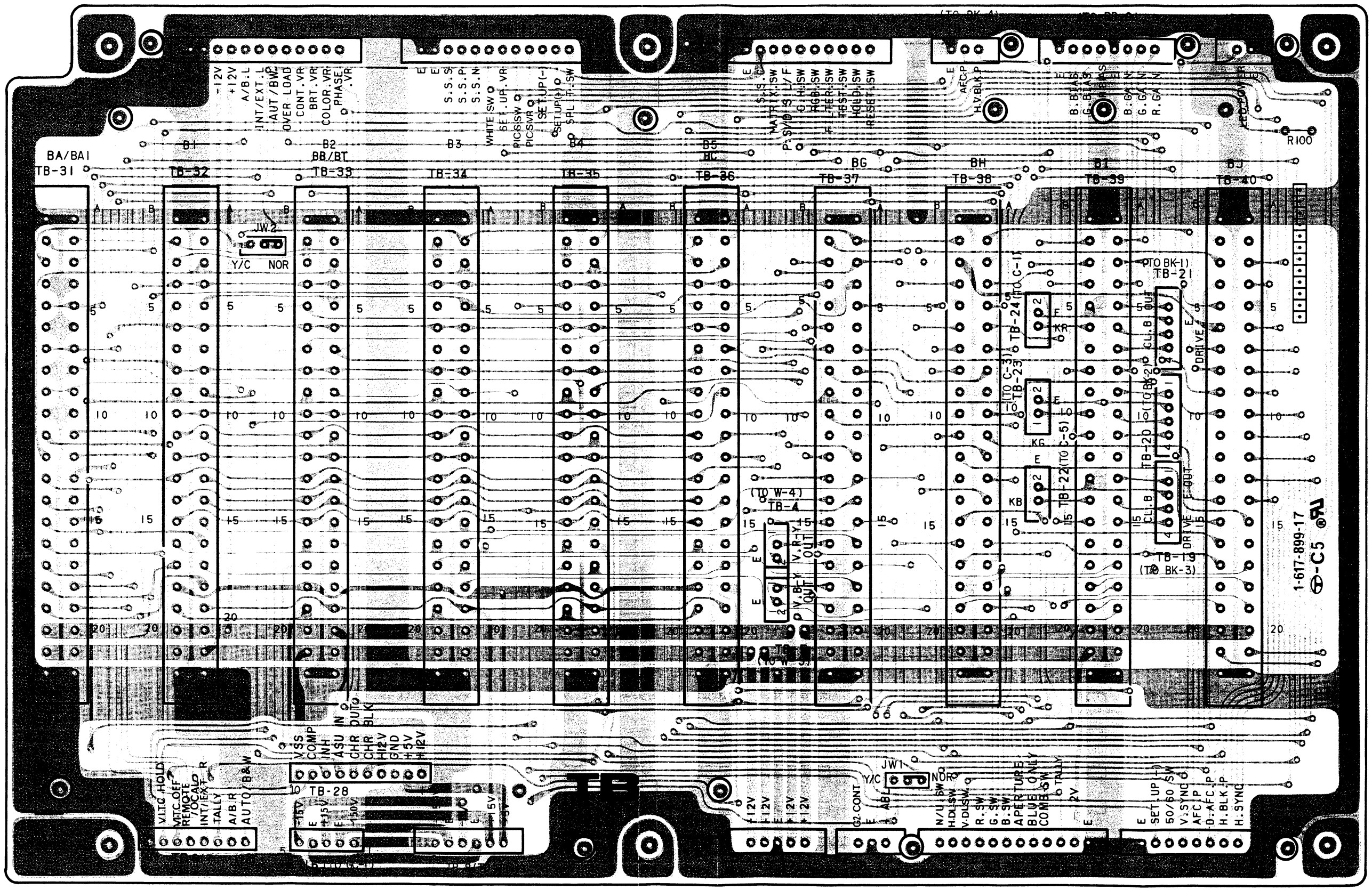
- : Conductor side pattern
- : Component side pattern

5-8

**TA board (MOTHER BOARD)**



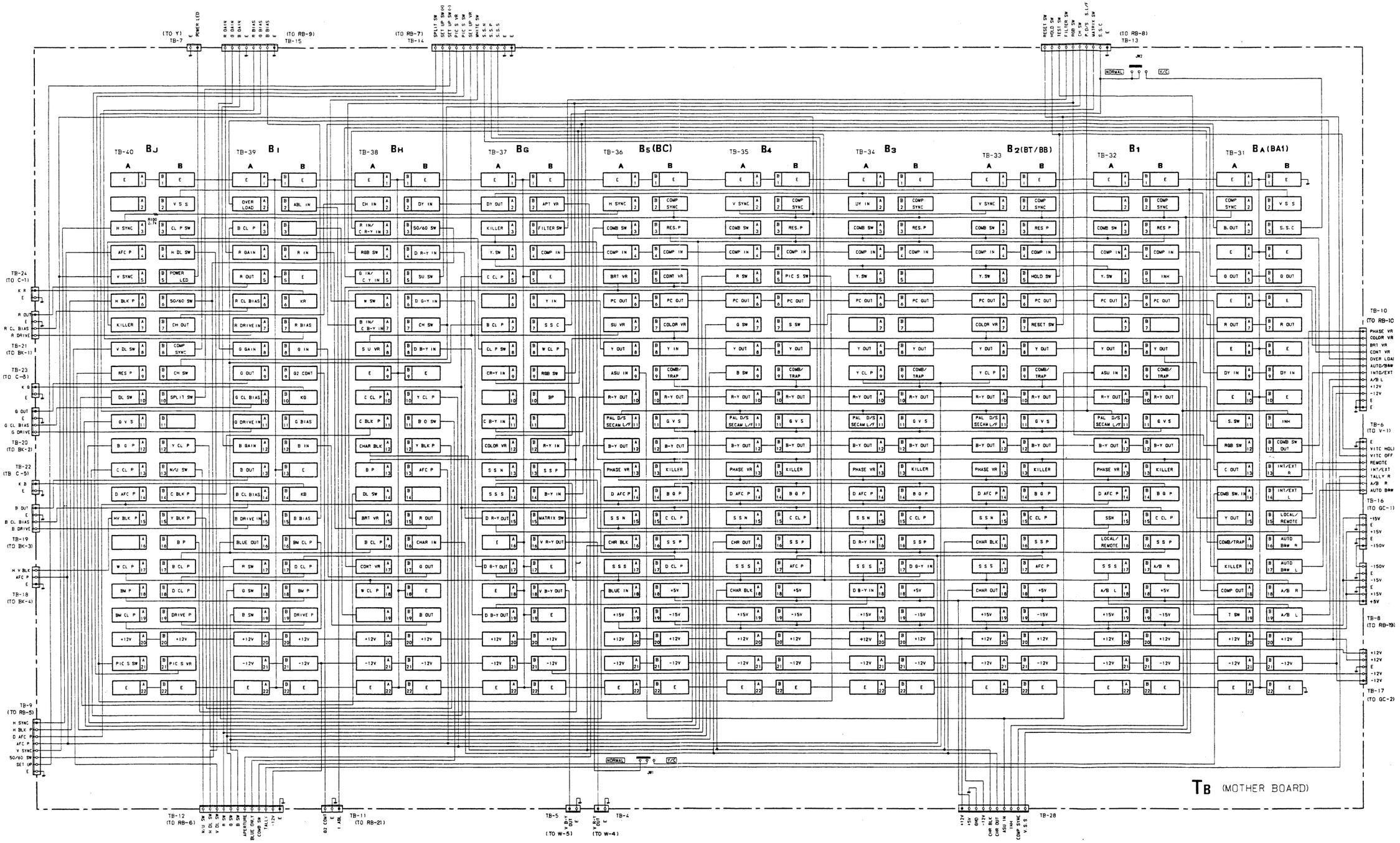
**TB board (MOTHER BOARD)**




- : Conductor side pattern
- : Component side pattern

# TB TB

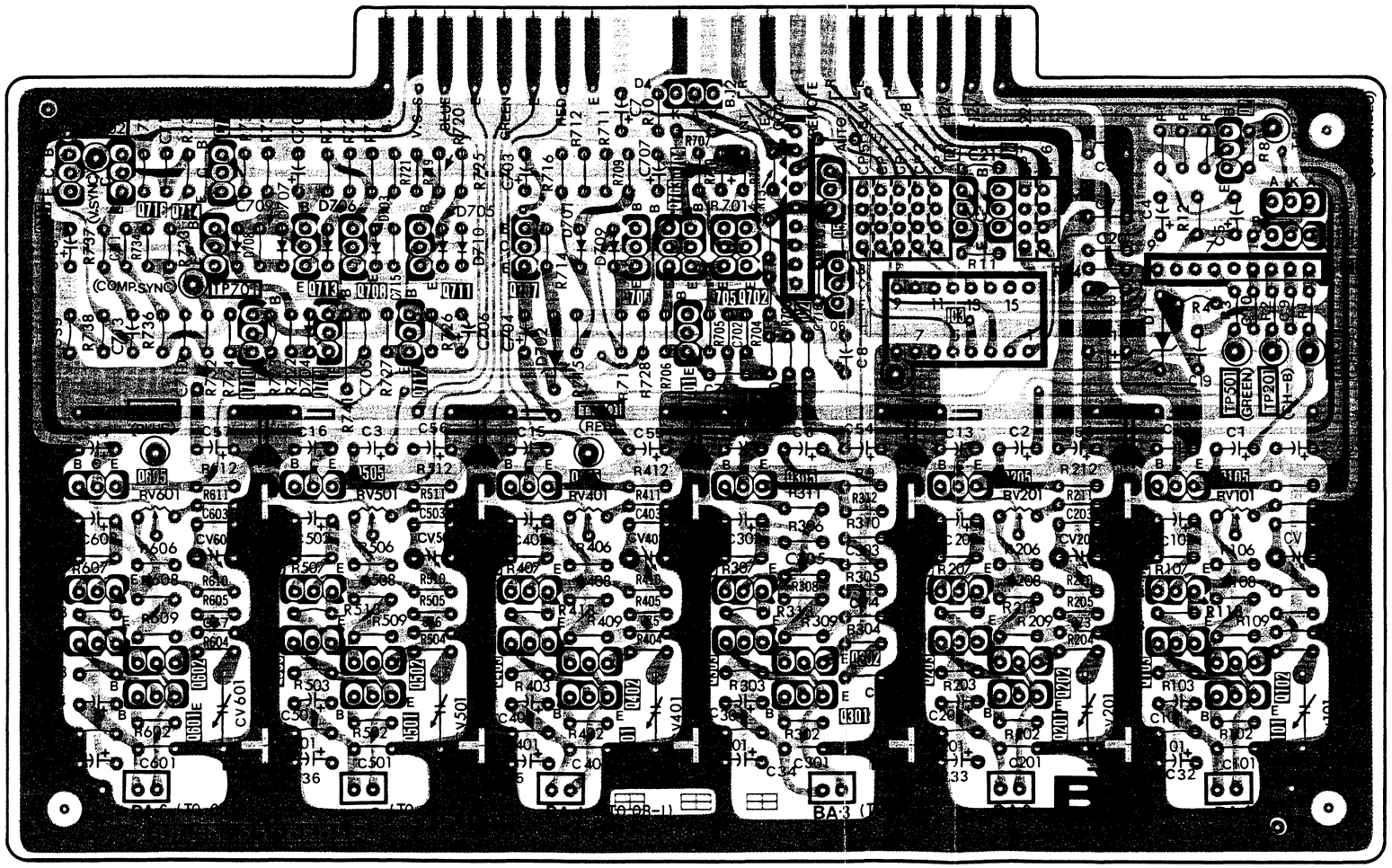
## TB board (MOTHER BOARD)



# BA BA

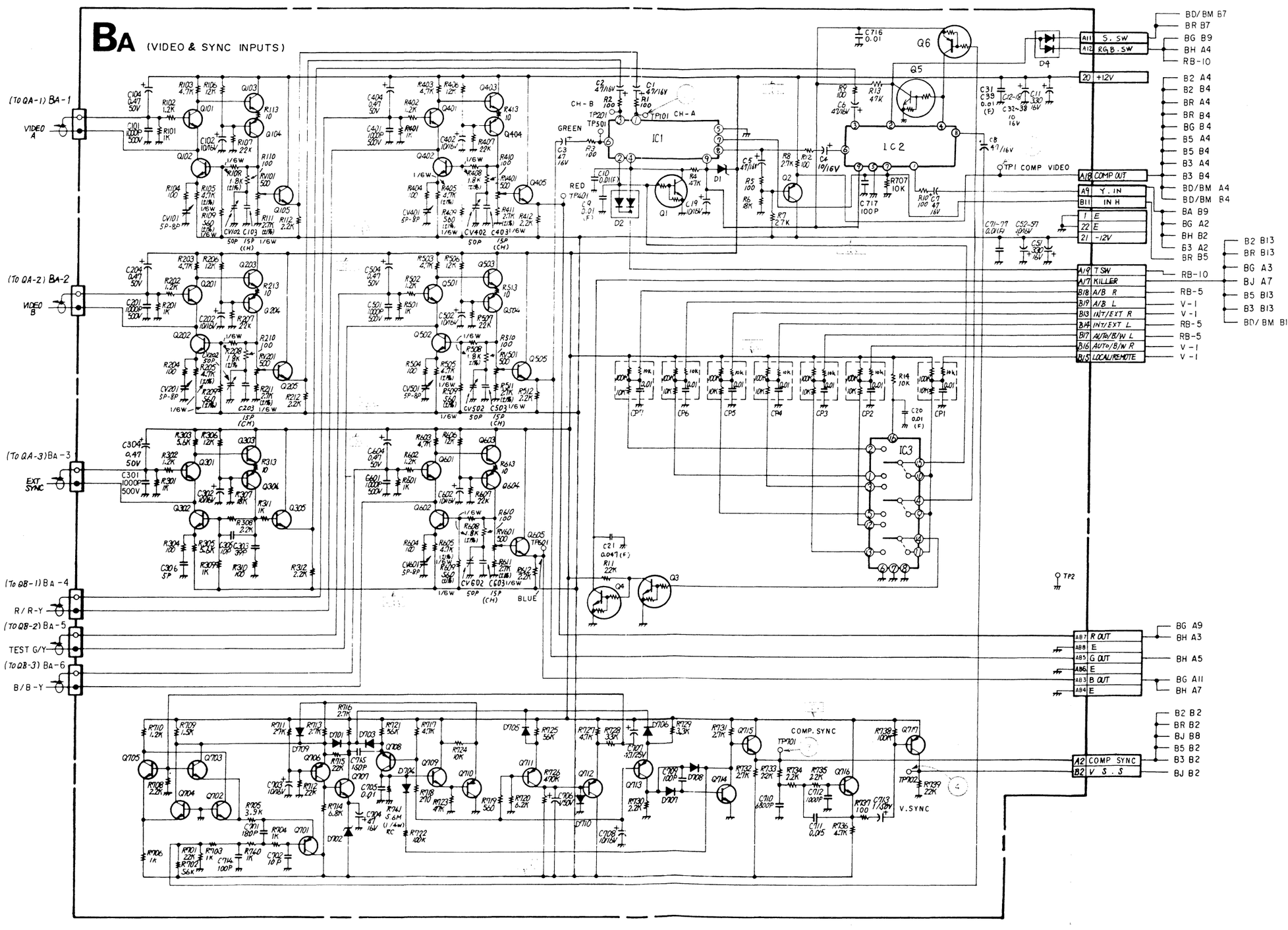
**BA board (SYNC SELECT & SYNC SEP, HOOK UP)**

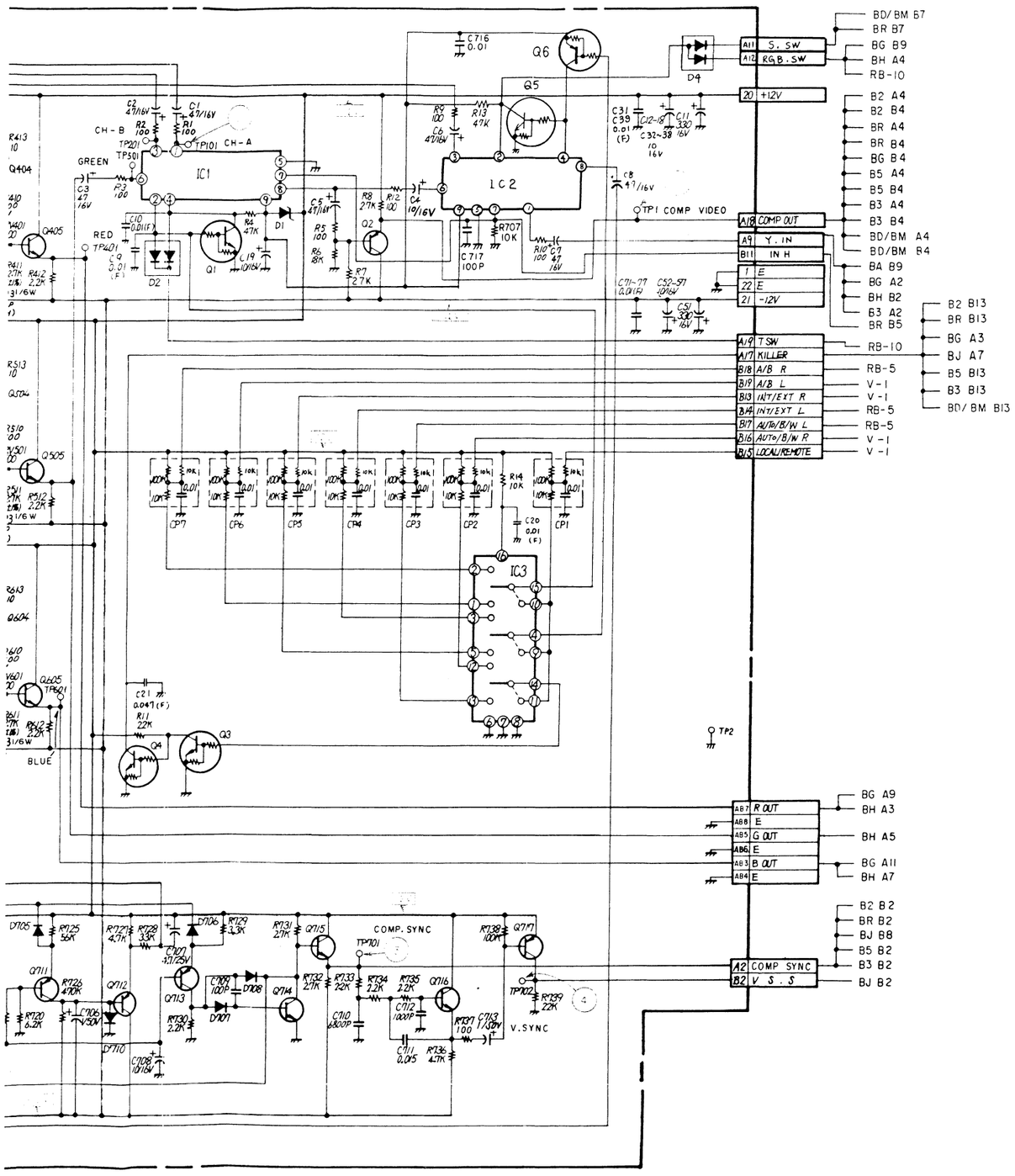
| IC | 2 | 3 | 1 |
|---|---|---|---|
| Q | 717 716 715 714 713 708 711 707 704 706 703 705 702 5 3 4 2 1 710 709 712 701 605 604 603 602 601 505 504 503 502 501 405 404 403 402 401 305 304 303 302 301 205 204 203 202 201 105 104 103 102 101 |
| D | 4 | 2 |
| | 708 707 706 703 705 710 101 709 704 702 | 1 |
| TP ADJ | TP702 TP601 RV601 CV602 CV601 TP701 RV501 CV502 CV501 TR401 RV401 CV402 CV401 TP2 RV201 CV202 CV201 TP1 TP501 RV101 TP201 TP101 CV102 CV101 |




● : Conductor side pattern
● : Component side pattern

**BA board (SYNC SELECT & SYNC SEP, HOOK UP)**



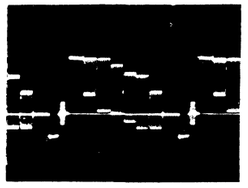




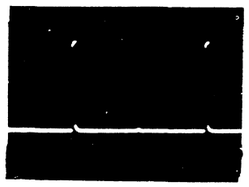

BA BOARD

| | | |
|---|---|---|
| IC1 | CX894 | INPUT SELECT |
| 2 | CX894 | SYNC SELECT |
| 3 | MC14053BCP | LOCAL/REMOTE SW |
| | | |
| | | |
| Q1 | DTC144ES | INPUT SELECT CONTROL |
| 2 | 2SA844 | BUFF |
| 3 | DTC144ES | KILLER |
| 4 | DTC144ES | KILLER |
| 5 | DTC144ES | SYNC SELECT CONTROL |
| 6 | DTA144ES | INT/EXT CONTROL |
| 101 | 2SC2668 | VIDEO A AMP |
| 102 | 2SC2668 | VIDEO A AMP |
| 103 | 2SC2668 | VIDEO A AMP |
| 104 | 2SA844 | VIDEO A AMP |
| 105 | 2SC2668 | VIDEO A AMP |
| 201 | 2SC2668 | VIDEO B AMP |
| 202 | 2SC2668 | VIDEO B AMP |
| 203 | 2SC2668 | VIDEO B AMP |
| 204 | 2SA844 | VIDEO B AMP |
| 205 | 2SC2668 | VIDEO B AMP |
| 301 | 2SC2668 | EXT SYNC AMP |
| 302 | 2SC2668 | EXT SYNC AMP |
| 303 | 2SC2668 | EXT SYNC AMP |
| 304 | 2SA844 | EXT SYNC AMP |
| 305 | 2SC2668 | EXT SYNC AMP |
| 401 | 2SC2668 | R-Y/R AMP |
| 402 | 2SC2668 | R-Y/R AMP |
| 403 | 2SC2668 | R-Y/R AMP |
| 404 | 2SA844 | R-Y/R AMP |
| 405 | 2SC2668 | R-Y/R AMP |
| 501 | 2SC2668 | TEST/Y/G AMP |
| 502 | 2SC2668 | TEST/Y/G AMP |
| 503 | 2SC2668 | TEST/Y/G AMP |
| 504 | 2SA844 | TEST/Y/G AMP |
| 505 | 2SC2668 | TEST/Y/G AMP |
| 601 | 2SC2668 | B-Y/B AMP |
| 602 | 2SC2668 | B-Y/B AMP |

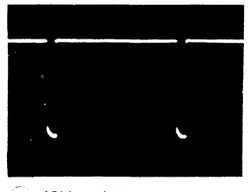
| | | |
|---|---|---|
| Q603 | 2SC2668 | B-Y/B AMP |
| 604 | 2SA844-E | B-Y/B AMP |
| 605 | 2SC2668 | B-Y/B AMP |
| 701 | 2SA1048 | SYNC AGC |
| 702 | 2SC2785 | SYNC AGC |
| 703 | 2SC2785 | SYNC AGC |
| 704 | 2SC2785 | SYNC AGC |
| 705 | 2SC2785 | SYNC AGC |
| 706 | 2SA1115 | SYNC AGC |
| 707 | 2SC3068 | SYNC AGC |
| 708 | 2SA1115 | SYNC AGC |
| 709 | 2SC2785 | SYNC AGC |
| 710 | 2SA1115 | SYNC AGC |
| 711 | 2SA1115 | SYNC AGC |
| 712 | 2SA1115 | SYNC AGC |
| 713 | 2SA1115 | COMP SYNC SEP |
| 714 | 2SC2785 | COMP SYNC SEP |
| 715 | 2SC3068 | COMP SYNC SEP |
| 716 | 2SC3068 | V SYNC SEP |
| 717 | 2SA1115 | V SYNC SEP |
| | | |
| D1 | RD3.0E-B | +9V REG |
| 2 | MC921 | INPUT SELECT CONTROL |
| 4 | MC911 | SYNC SELECT CONTROL |
| 701 | 1SS119 | SYNC AGC |
| 702 | RD4.3E-B | -7.5V REG |
| 703 | 1SS119 | SYNC AGC |
| 704 | 1SS119 | SYNC AGC |
| 705 | 1SS119 | SYNC AGC |
| 706 | 1SS119 | SYNC AGC |
| 707 | 1SS119 | COMP SYNC SEP |
| 708 | 1SS119 | COMP SYNC SEP |
| 709 | 1SS119 | SYNC AGC |
| 710 | 1SS119 | SYNC AGC |
| | | |



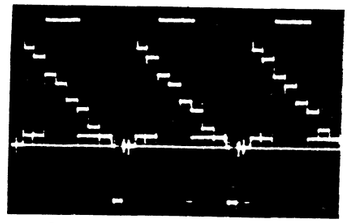
1 1Vp-p (H)
2 1Vp-p (H)



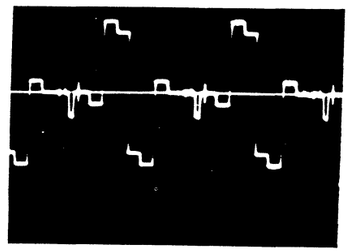
12 Vp-p (V)



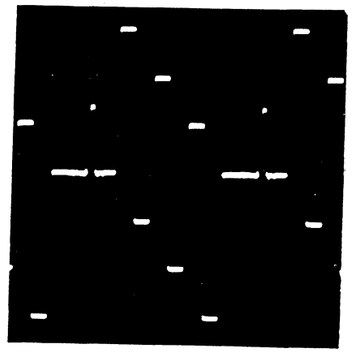
3 12Vp-p (H)



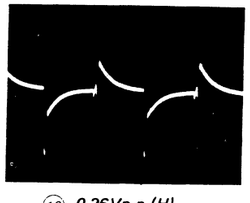
(1) 1Vp-p (H)



(2) 0.3Vp-p
(3) 0.32Vp-p
(4) 0.32Vp-p
(5) 0.36Vp-p



(6) 0.38Vp-p
(7) 0.38Vp-p
(8) 0.39Vp-p
(9) 0.42Vp-p



(10) 0.26Vp-p (H)
(11) 0.26Vp-p (H)

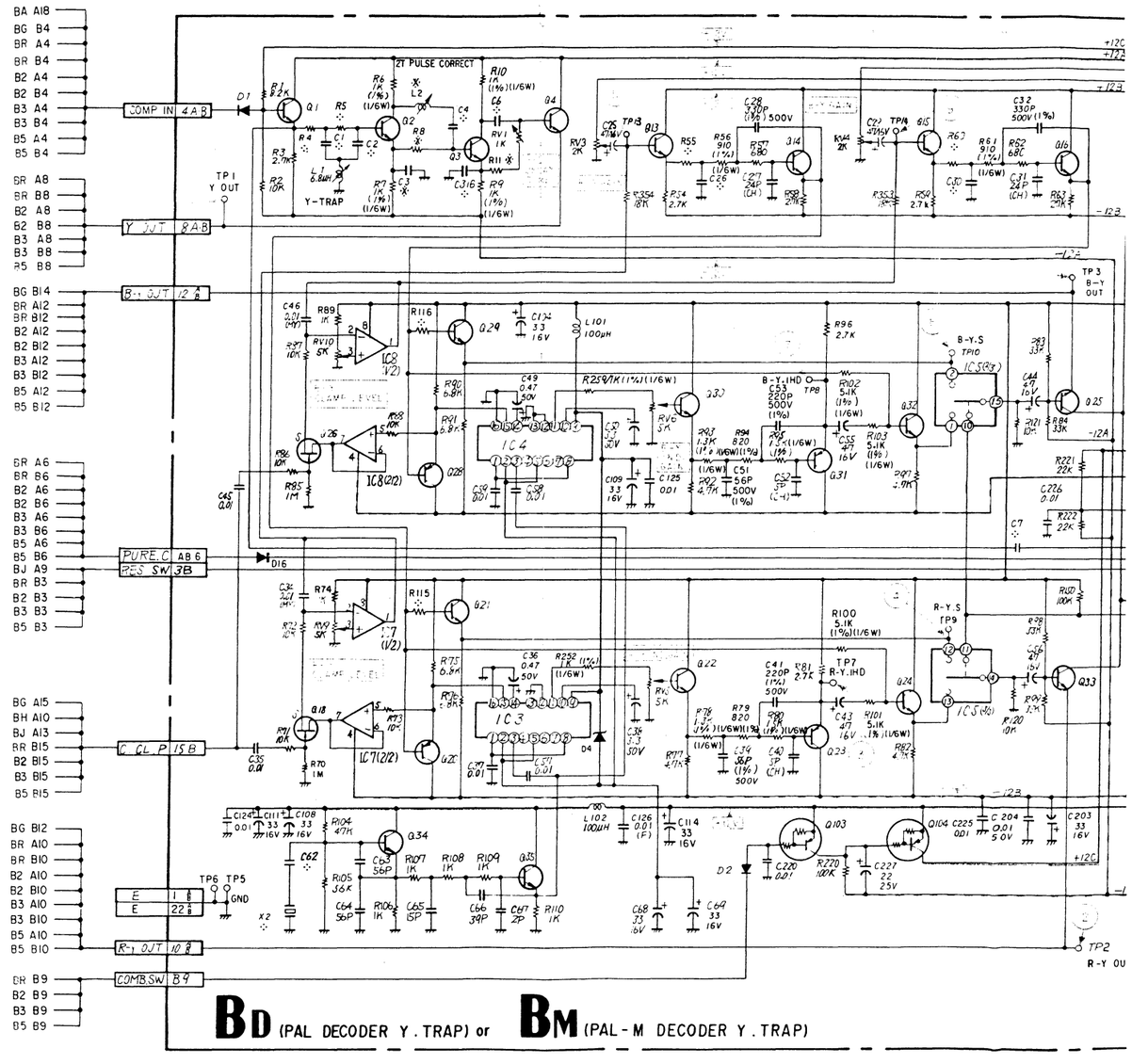
※NOTE

| Ref \ Model | BD (PAL) | BM (PAL-M) |
|---|---|---|
| C1 | 10P 0.5P 50V | 15P 5% 50V |
| C2 | 10P 0.5P 50V | 15P 5% 50V |
| C3 | 33PF 5% 50V | ——— |
| C4 | 47P 5% 50V | 39P 5% 50V |
| C6 | 68P 5% 50V | 56P 5% 50V |
| C7 | 33P 5% 50V | 39P 5% 50V |
| C8 | 6P 0.5P 50V | 2P 0.25P 50V |
| C19 | 1-102-668-00 15P 5% (RH) 50V | 1-102-880-00 15P 5% (UJ) 50V |
| C20 | 68P 5% (UJ) 50V | 56P 5% (UJ) 50V |
| C23 | ELECT 1 20% 50V | FILM 0.01 5% 50V |
| C26 | 160P 1% 500V | 130P 1% 500V |
| C30 | 160P 1% 500V | 130P 1% 500V |
| C62 | 24P 5% 50V | JW |
| C80 | ——— | **1 20% 50V** |
| C304 | 10P 0.5P 50V | ——— |
| C316 | 2P 0.25P 50V | 10P 0.5P 50V |
| C350 | 33P 5% (UJ) 50V | 22P 5% (UJ) 50V |
| D15 | ——— | 1SS119 |
| L3 | 33μH | 68μH |
| R4 | 1.5K 1% 1/6W | 1K 1% 1/6W |
| R5 | 82 1% 1/6W | 110 1% 1/6W |
| R8 | 1.2K 1% 1/6W | 1.8K 1% 1/6W |
| R11 | 56 1% 1/6W | 130 1% 1/6W |
| R12 | 1.8K 1% 1/6W | 2.2K 1% 1/6W |
| R23 | 6.8K 1% 1/6W | 5.6K 1% 1/6W |
| R28 | 1.8K 5% 1/4W | 3.3K 5% 1/4W |
| R34 | 270 1% 1/6w | 680 1% 1/6W |
| R35 | 270 1% 1/6W | 680 1% 1/6W |
| R40 | 1K 1% 1/6W | 1K 5% 1/4W |
| R41 | 2.2K 1% 1/6W | 2.2K 5% 1/4W |
| R42 | 10K 1% 1/6W | 10K 5% 1/4W |
| R43 | 1K 1% 1/6W | 1K 5% 1/4W |
| R55 | 750 1% 1/6W | 910 1% 1/6W |
| R60 | 750 1% 1/6W | 910 1% 1/6W |
| R64 | 220K 1% 1/6W | 1K 5% 1/4W |
| R65 | 3.9K 1% 1/6W | 2.2K 1% 1/6W |
| R115 | 5.1K 1% 1/6W | 2.2K 1% 1/6W |
| R116 | 5.1K 1% 1/6W | 2.2K 1% 1/6W |
| R130 | 220K 1% 1/6W | 470K 1% 1/6W |
| R309 | 10 5% 1/4W | ——— |
| R320 | 130K 1% 1/6W | 360k 1% 1/6W |
| TH1 | ——— | THERMISTOR S-10K |
| X1 | 4.43MHz | 3.58MHz |
| X2 | 10.64MHz | 10.717MHz |
| C113 | ELECT 33 20% 16V | ——— |
| R25 | 6.8K 5% 1/4W | 4.7K 5% 1/4W |
| R26 | 680 5% 1/4W | 1.2K 5% 1/4W |
| R39 | 1.5K 1% 1/6W | 2.2K 1% 1/6W |
| C18 | 13PF 5% 50V | 15PF 5% 50V |





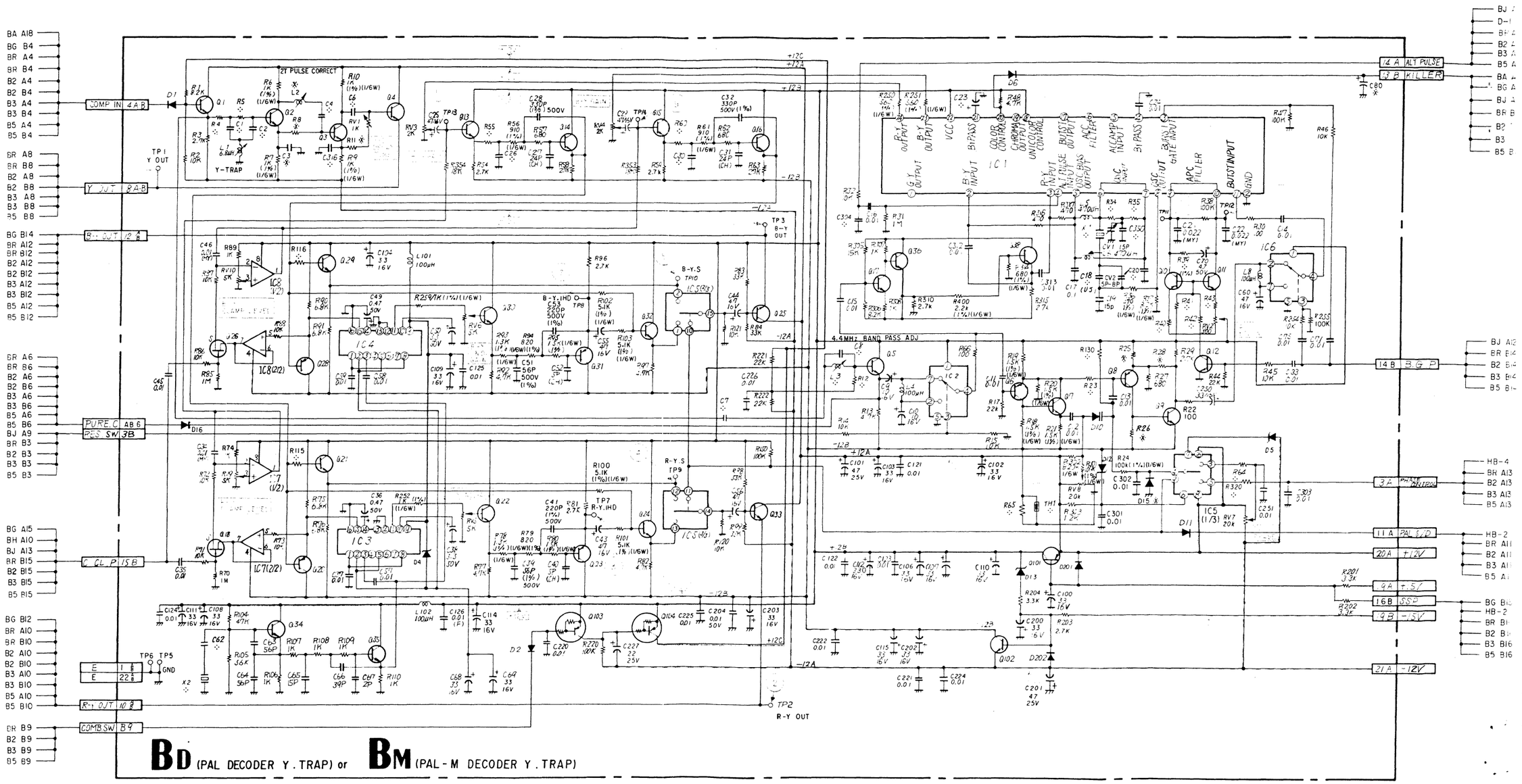
BD board (PAL DECODER Y.TRAP)
BM board (PAL-M DECODER Y.TRAP)




**BD** (PAL DECODER Y.TRAP) or **BM** (PAL-M DECODER Y.TRAP)

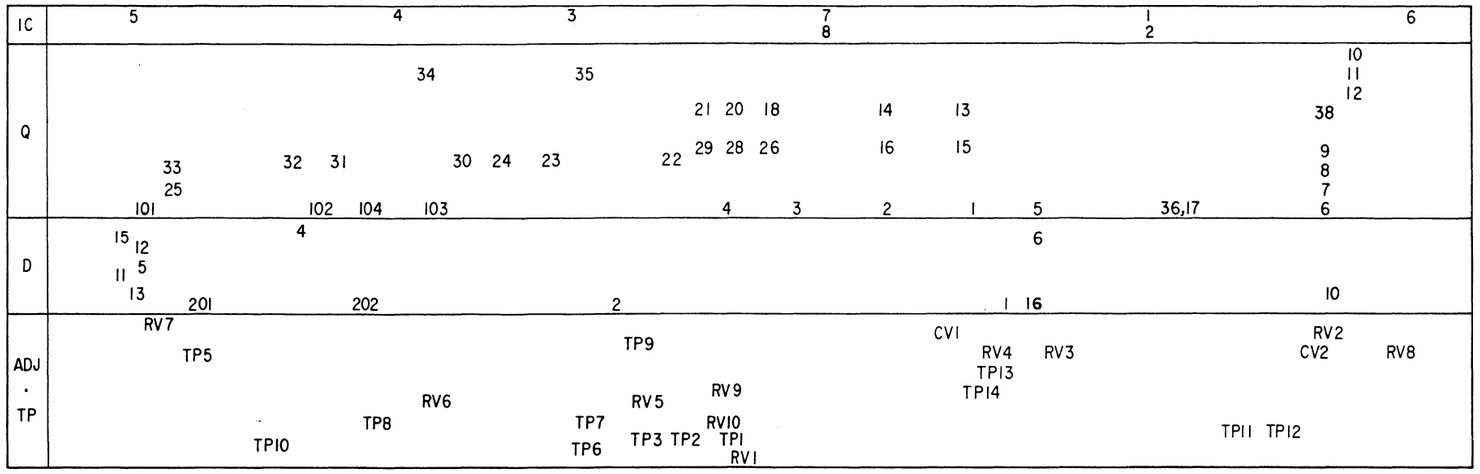
BD board (PAL DECODER Y.TRAP)
BM board (PAL-M DECODER Y.TRAP)

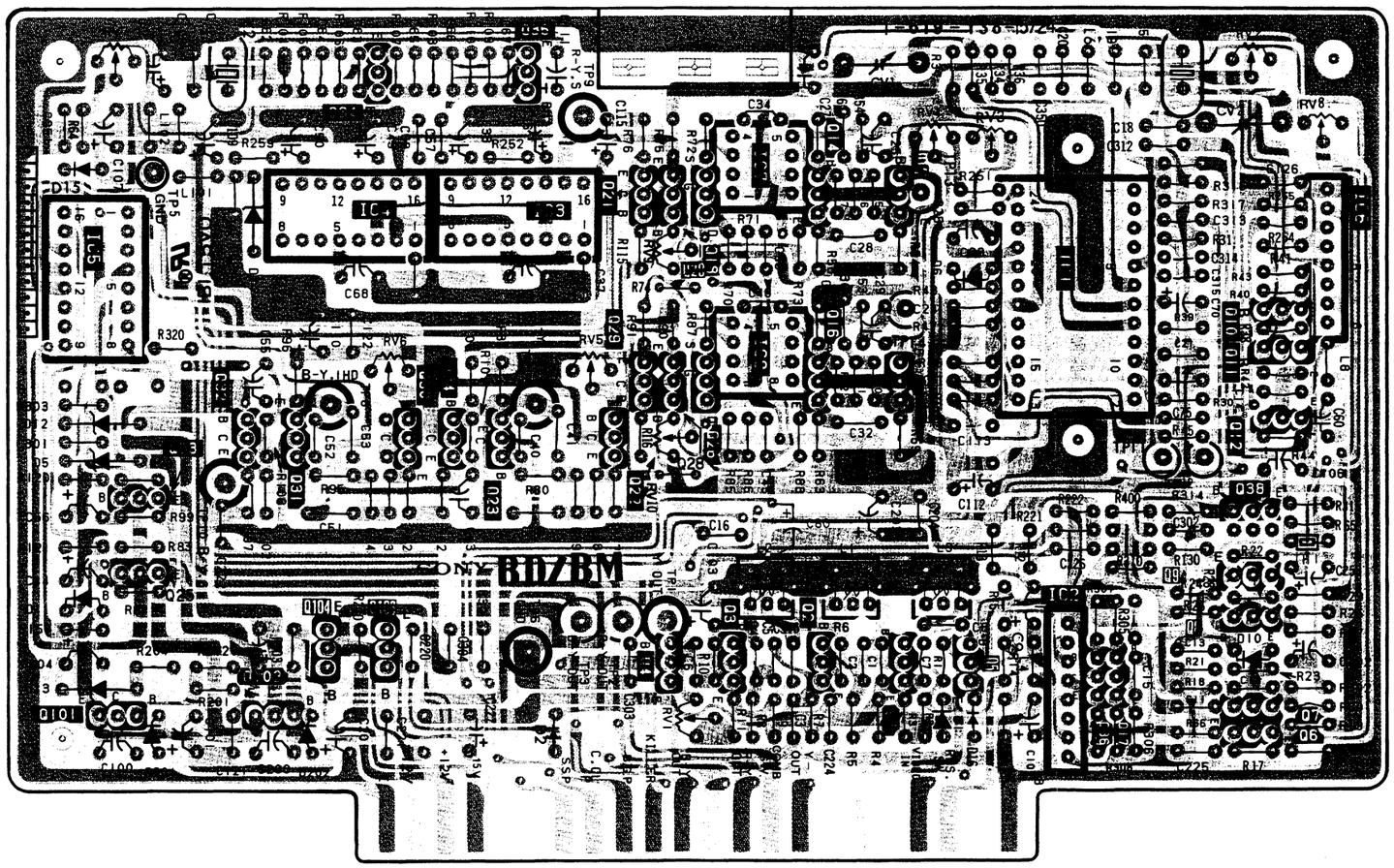
| | BM (PAL-M) | |
|---|---|---|
| | 15P 5% | 50V |
| | 15P 5% | 50V |
| | ——— | |
| | 39P 5% | 50V |
| | 56P 5% | 50V |
| | 39P 5% | 50V |
| | 2P 0.25P | 50V |
| | 1-102-880-00 | |
| | 15P 5% (UJ) | 50V |
| | 56P 5% (UJ) | 50V |
| | FILM | |
| | 0.01 5% | 50V |
| | 130P 1% | 500V |
| | 130P 1% | 500V |
| | JW | |
| | 1 20% | 50V |
| | ——— | |
| | 10P 0.5P | 50V |
| | 22P 5% (UJ) | 50V |
| | 1SS119 | |
| | 68μH | |
| 1K | 1% | 1/6W |
| 110 | 1% | 1/6W |
| 1.8K | 1% | 1/6W |
| 130 | 1% | 1/6W |
| 2.2K | 1% | 1/6W |
| 5.6K | 1% | 1/6W |
| 3.3K | 5% | 1/4W |
| 680 | 1% | 1/6W |
| 680 | 1% | 1/6W |
| 1K | 5% | 1/4W |
| 2.2K | 5% | 1/4W |
| 10K | 5% | 1/4W |
| 1K | 5% | 1/4W |
| 910 | 1% | 1/6W |
| 910 | 1% | 1/6W |
| 1K | 5% | 1/4W |
| 2.2K | 1% | 1/6W |
| 2.2K | 1% | 1/6W |
| 2.2K | 1% | 1/6W |
| 470K | 1% | 1/6W |
| | ——— | |
| 360k | 1% | 1/6W |
| THERMISTOR | S-10K | |
| | 3.58MHz | |
| | 10.717MHz | |
| | ——— | |
| 4.7K | 5% | 1/4W |
| 1.2K | 5% | 1/4W |
| 2.2K | 1% | 1/6W |
| 15PF | 5% | 50V |




**BD** (PAL DECODER Y.TRAP) or **BM** (PAL-M DECODER Y.TRAP)

**BD board (PAL DECODER Y. TRAP) 1-619-138-15**
**BM board (PAL-M DECODER Y. TRAP) 1-619-138-24**



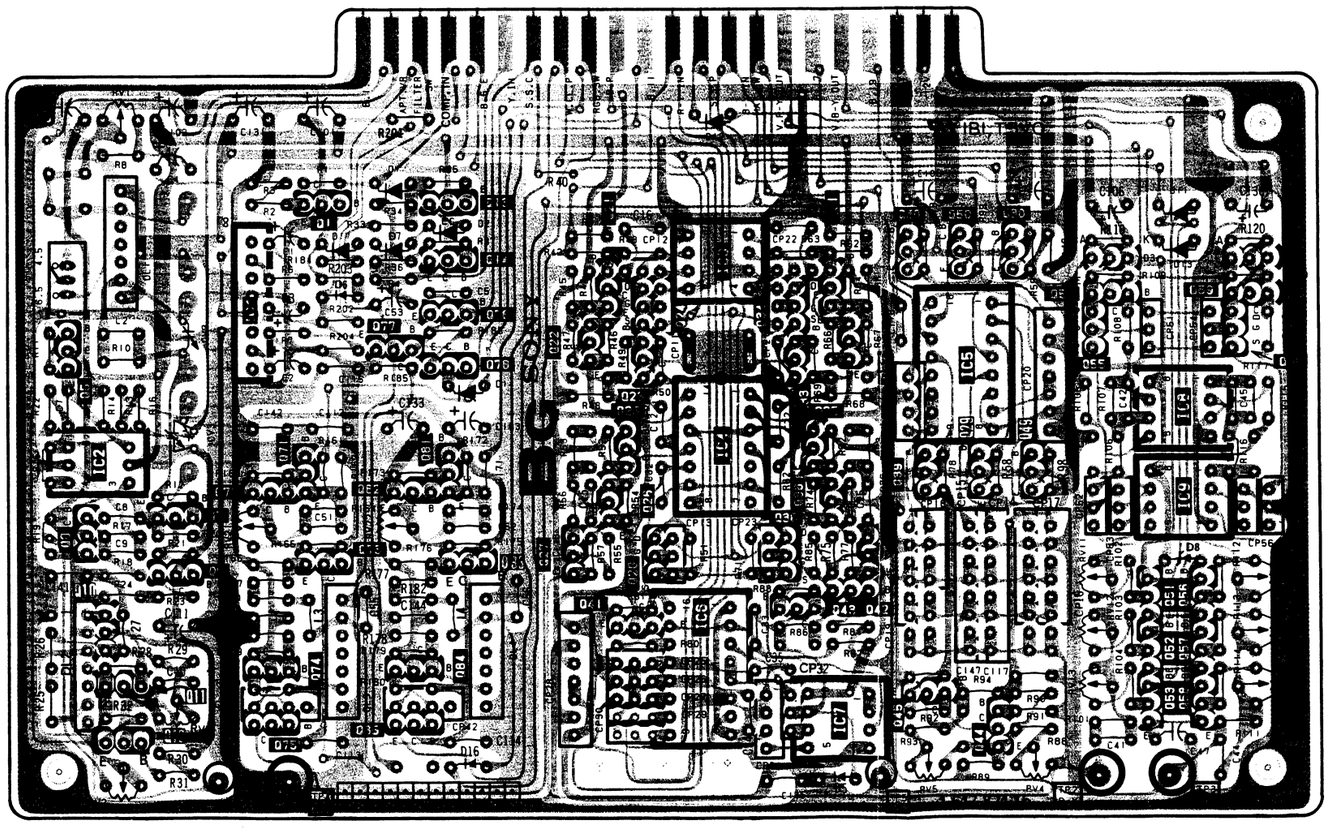




| | | |
|---|---|---|
| IC1 | TA7193P | PAL DEMODULATOR |
| 2 | LA7016 | RESIDUAL SWITCH |
| 3 | TL8608P | 1H DELAY LINE |
| 4 | TL8608P | 1H DELAY LINE |
| 5 | MC14053BCP | ANALOG SWITCHER |
| 6 | LA7016 | BURST GATE |
| 7 | RC4558P | R-Y CLAMP |
| 8 | RC4558P | B-Y CLAMP |
| | | |
| | | |
| Q1 | 2SC403SP | BUFFER |
| 2 | 2SC403SP | ACTIVE FILTER |
| 3 | 2SC403SP | Y-DELAY CORRECTER |
| 4 | 2SC3068 | BUFFER |
| 5 | 2SC3068 | BUFFER |
| 6 | 2SA844 | PHASE CONTROLLER |
| 7 | 2SC403SP | PHASE CONTROLLER |
| 8 | 2SA844 | PHASE CONT. AMP. |
| 9 | 2SC403SP | PHASE CONT. AMP. |
| 10 | 2SA1175 | APL FILTER |
| 11 | 2SA1175 | APL FILTER |
| 12 | 2SC403SP | APL FILTER SWITCH |
| 13 | 2SC403SP | R-Y L.P.F |
| 14 | 2SC403SP | R-Y L.P.F |
| 15 | 2SC403SP | B-Y L.P.F |
| 16 | 2SC403SP | B-Y L.P.F |
| 17 | 2SC403SP | AMPLIFIER |
| 18 | 2SK381 | R-Y CLAMP |
| 20 | 2SA1175 | BUFFER |
| 21 | 2SC403SP | BUFFER |
| 22 | 2SC403SP | CCD OUT L.P.F |
| 23 | 2SA844 | CCD OUT L.P.F |
| 24 | 2SC403SP | BUFFER |
| 25 | 2SC3068 | BUFFER |
| 26 | 2SK381 | B-Y CLAMP |
| 28 | 2SA1175 | BUFFER |
| 29 | 2SC403SP | BUFFER |
| 30 | 2SC403SP | CCD OUT L.P.F |
| 31 | 2SA1175 | CCD OUT L.P.F |
| 32 | 2SC403SP | BUFFER |
| 33 | 2SC3068 | BUFFER |
| 34 | 2SC403SP | CCD CLOCK GEN |
| 35 | 2SC403SP | CCD CLOCK GEN |
| 36 | 2SC403SP | BUFFER |
| 38 | 2SC403SP | BUFFER |
| 101 | 2SB734 | SYSTEM SWITCH |
| 102 | 2SD789 | SYSTEM SWITCH |
| 103 | DTA124ES | COMB. SWITCH |
| 104 | DTA124ES | COMB. SWITCH |
| | | |
| | | |
| D1 | 1SS119 | SYSTEM SWITCH |
| 2 | 1SS119 | COMB. SWITCH |
| 4 | RD3.0EB1 | CCD BIAS |
| 5 | RD9.1EB2 | SWITCH BIAS |
| 6 | 1SS119 | KILLER SWITCH |
| 10 | 1T25 | PHASE CONTROL |
| 11 | 1SS119 | PAL S/D SWITCH |
| 12 | RD12EB2 | PHASE SWITCH |
| 13 | RD12EB2 | SYSTEM SWITCH |
| 15 | 1SS119 | |
| 16 | 1SS119 | COMB SW |
| 201 | 1SS119 | PROTECTOR |
| 202 | 1SS119 | PROTECTOR |

- Conductor side pattern
- Component side pattern

**BG board (COLOR GAIN CONTROL, COMPONENT R-Y AMP & DELAY, APERTURE CONTROL, Y DELAY, VECTOR OUT, NTSC MATRIX SW, G-Y MATRIX AMP)**

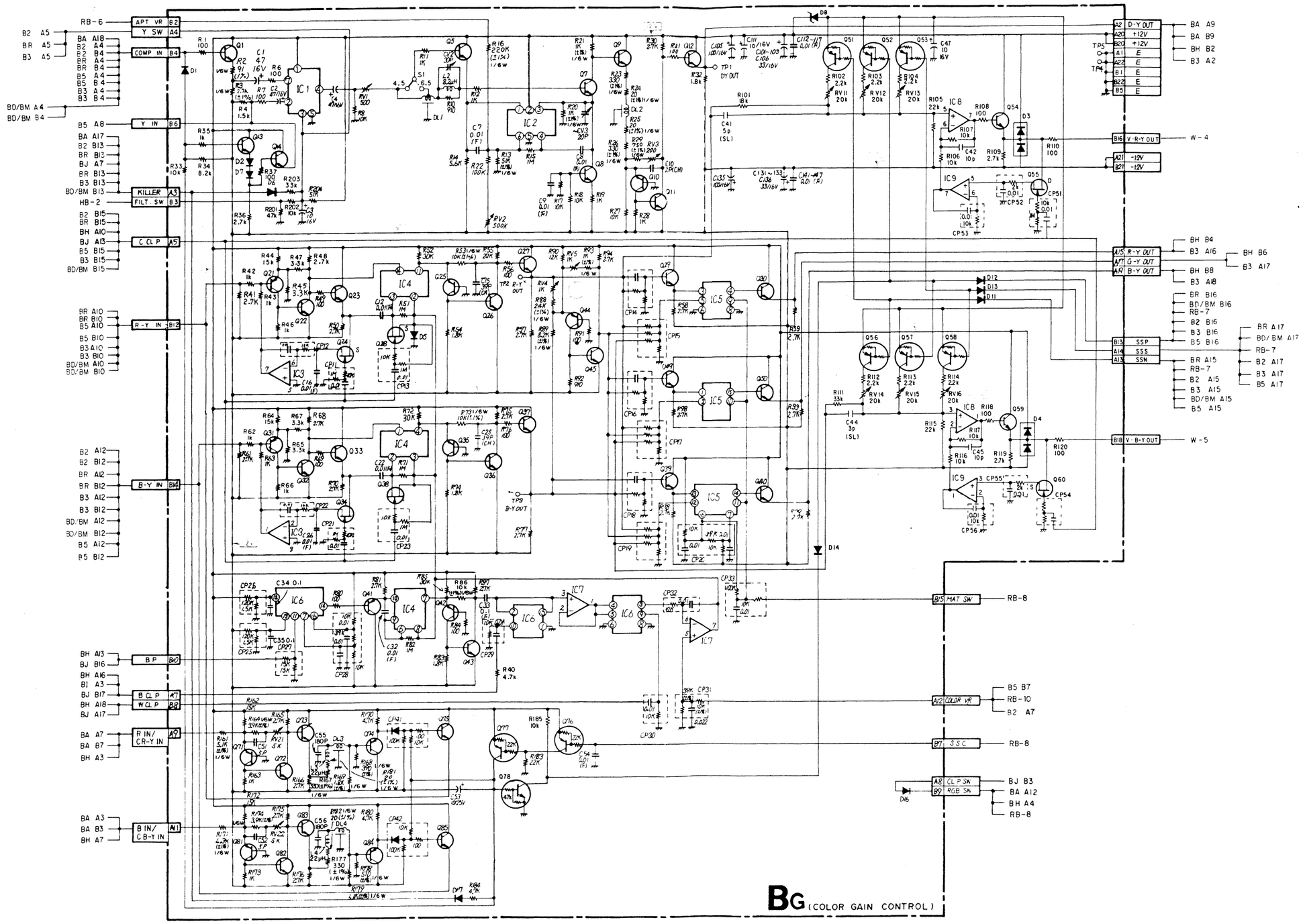
| | |
|---|---|
| IC | 1 3 4 6 7 5 8 9 |
| Q | 1 13 14 76 77 78 81 82 83 5 8 7 10 9 11 12 72 71 73 74 75 84 85 21 24 22 23 25 26 27 28 41 34 31 32 33 35 36 37 38 42 43 40 50 30 39 29 49 45 44 54 55 59 60 51 56 52 57 53 58 |
| D | 1 17 6 7 15 2 14 16 12 5 3 11 13 8 4 |
| TP ADJ | RV1 RV2 CV2 CV3 RV3 RV21 TP1 TP4 RV22 TP5 RV5 RV4 RV11 RV12 RV13 TP2 TP3 RV14 RV15 RV16 |

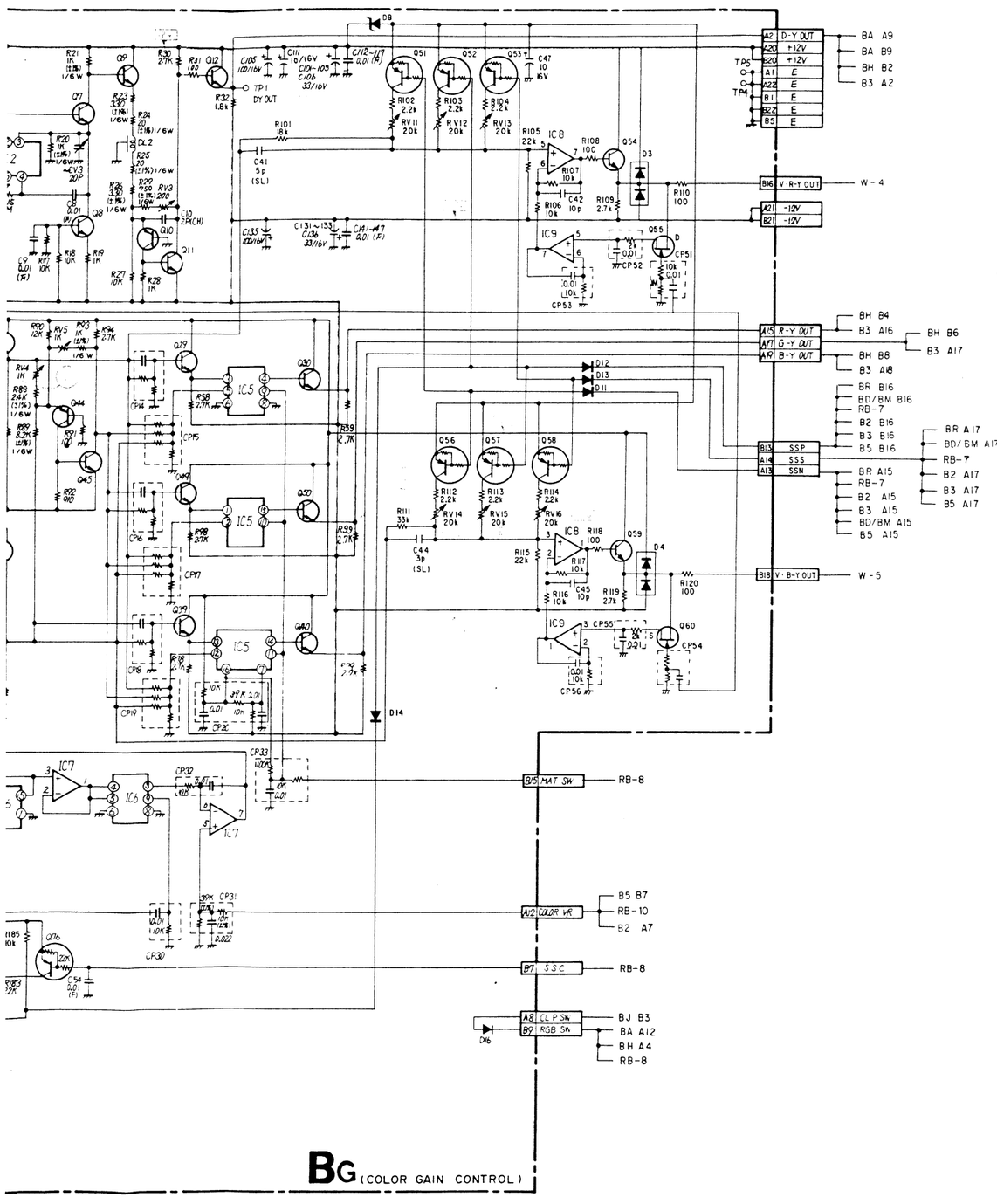




- : Conductor side pattern
- : Component side pattern

BG board (COLOR GAIN CONTROL, COMPONENT R-Y AMP & DELAY, APERTURE CONTROL,
Y DELAY, NTSC MATRIX SW, G-Y MATRIX AMP)






**BG** (COLOR GAIN CONTROL)

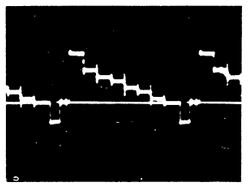




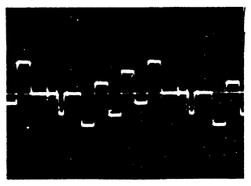
BG BOARD

| | | |
|---|---|---|
| IC1 | LA7016 | FILTER SW |
| 2 | TX-429M | APERTURE |
| 3 | RC4558DQ | COLOR DIFFERENCE CLAMP |
| 4 | CX-718D | CHROMA CONTROL |
| 5 | MC14053BCP | MATRIX SW |
| 6 | MC14053BCP | CHROMA CONTROL |
| 7 | TL082CF | CHROMA CONTROL |
| 8 | TL082CP | VECTOR OUTPUT |
| 9 | TL082CP | VECTOR OUTPUT |
| | | |
| | | |
| Q1 | 2SC403SP | BUFF |
| 5 | 2SC403SP | APERTURE |
| 7 | 2SC403SP | APERTURE |
| 8 | 2SC403SP | APERTURE |
| 9 | 2SC403SP | Y DELAY |
| 10 | 2SA844 | Y AMP |
| 11 | 2SC403SP | Y AMP |
| 12 | 2SC403SP | Y AMP |
| 13 | 2SC403SP | BUFF |
| 14 | 2SC3068 | BUFF |
| 21 | 2SA844 | R-Y AMP |
| 22 | 2SC403SP | R-Y AMP |
| 23 | 2SC403SP | R-Y CLAMP |
| 24 | 2SK381 | R-Y CLAMP |
| 25 | 2SA844 | R-Y CHROMA CONTROL |
| 26 | 2SC403SP | R-Y CHROMA CONTROL |
| 27 | 2SC403SP | R-Y CHROMA CONTROL |
| 28 | 2SK381 | R-Y CHROMA CONTROL |
| 29 | 2SC403SP | R-Y BUFF |
| 30 | 2SC403SP | R-Y BUFF |
| 31 | 2SA844 | B-Y AMP |
| 32 | 2SC403SP | B-Y AMP |
| 33 | 2SC403SP | B-Y CLAMP |
| 34 | 2SK381 | B-Y CLAMP |
| 35 | 2SA844 | B-Y CHROMA CONTROL |
| 36 | 2SC403SP | B-Y CHROMA CONTROL |
| 37 | 2SC403SP | B-Y CHROMA CONTROL |
| 38 | 2SK381 | B-Y CHROMA CONTROL |
| 39 | 2SC403SP | B-Y BUFF |
| 40 | 2SC403SP | B-Y BUFF |
| 41 | 2SA844 | CHROMA CONTROL |
| 42 | 2SA844 | CHROMA CONTROL |
| 43 | 2SC403SP | CHROMA CONTROL |

| | | |
|---|---|---|
| Q44 | 2SA844 | CHROMA CONTROL |
| 45 | 2SC403SP | CHROMA CONTROL |
| 49 | 2SC403SP | G-Y BUFF |
| 50 | 2SC403SP | G-Y BUFF |
| 51 | DTA124ES | GAIN CHANGE SW |
| 52 | DTA124ES | GAIN CHANGE SW |
| 53 | DTA124ES | GAIN CHANGE SW |
| 54 | 2SC403SP | R-Y BUFF |
| 55 | 2SK381 | R-Y CLAMP |
| 56 | DTA124ES | GAIN CHANGE SW |
| 57 | DTA124ES | GAIN CHANGE SW |
| 58 | DTA124ES | GAIN CHANGE SW |
| 59 | 2SC403SP | B-Y BUFF |
| 60 | 2SK381 | B-Y CLAMP |
| 71 | 2SA844 | R-Y AMP |
| 72 | 2SC403SP | R-Y AMP |
| 73 | 2SC403SP | R-Y AMP |
| 74 | 2SA844 | R-Y DELAY |
| 75 | 2SC3068 | R-Y BUFF |
| 76 | DTA124ES | COMPONENT SW |
| 77 | DTA124ES | COMPONENT SW |
| 78 | DTC144ES | COMPONENT SW |
| 81 | 2SA844 | B-Y AMP |
| 82 | 2SC403SP | B-Y AMP |
| 83 | 2SC403SP | B-Y AMP |
| 84 | 2SA844 | B-Y DELAY |
| 85 | 2SC3068 | B-Y BUFF |
| | | |
| | | |
| D1 | 1SS119 | COMPONENT SW |
| 2 | 1SS119 | DC SHIFT SW |
| 3 | MC932 | PROTECT |
| 4 | MC932 | PROTECT |
| 5 | 1SS119 | PROTECT |
| 6 | RD6.2EB2 | DC SHIFT |
| 7 | 1SS119 | FILTER SW |
| 8 | RD6.2E-B | +6V REG |
| 11 | 1SS119 | GAIN CHANGE SW |
| 12 | 1SS119 | GAIN CHANGE SW |
| 13 | 1SS119 | GAIN CHANGE SW |
| 14 | 1SS119 | GAIN CHANGE SW |
| 16 | 1SS119 | R.G.B. SW |
| 17 | 1SS119 | KILLER |
| | | |



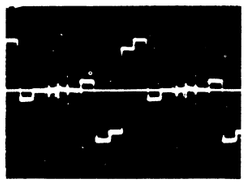
*1.0Vp-p (H)*



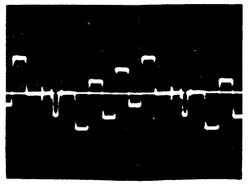
*1.7Vp-p (H)*



*4.8Vp-p (H)*



*1.4Vp-p (H)*



*0.9Vp-p (H)*

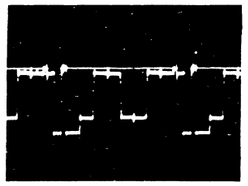


*12Vp-p (H)*

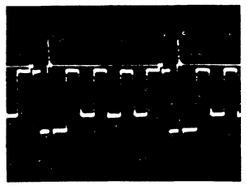
BH BOARD

| | | |
|---|---|---|
| IC1(1/3) | TC4053BP | COMPOSITE/R.G.B. CHANGE SW |
| (2/3) | | SET UP & CROSS HATCH SW |
| (3/3) | | SCREENING SW |
| 2(1/3) | TC4053BP | COMPOSITE/R.G.B. CHANGE SW |
| (2/3) | | SET UP SW |
| (3/3) | | SCREENING SW |
| 3(1/3) | TC4053BP | COMPOSITE/R.G.B. CHANGE SW |
| (2/3) | | SET UP SW |
| (3/3) | | SCREENING SW |
| 4(1/3) | TC4053BP | COMPOSITE/R.G.B. CHANGE SW |
| (2/3) | | SET UP SW |
| (3/3) | | SCREENING SW |
| 5 | RC4558S | SAMPLE HOLD |
| 6 | RC4558S | SAMPLE HOLD |
| 7 | LA7016 | BLUE ONLY SW |
| 8 | LA7016 | BLUE ONLY SW |
| 9 | MC14053BCP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| 10(1/2) | MC14053BCP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| (2/2) | | COLOR DIFFERENCE & R.G.B. SCREENING PULSE GEN |
| 11(1/4) | MC14081BCP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| (3/4) | | |
| (2/4) | | COLOR DIFFERENCE & R.G.B. SCREENING PULSE GEN |
| (4/4) | | Y SCREENING PULSE GEN |
| 12 | MC14081BCP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| 13 | MC14001BCP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| 14 | TC4030BP | AGC PULSE, SET UP, WHITE, VITC INSERT GEN |
| 101 | TX-429M | R CONTRAST CONTROL |
| 102 | TL082CP | R CONTRAST & BRIGHT CONTROL |
| 201 | TX-429M | G CONTRAST CONTROL |
| 202 | TL082CP | G CONTRAST & BRIGHT CONTROL |
| 301 | TX-429M | B CONTRAST CONTROL |
| 302 | TL082CP | B CONTRAST & BRIGHT CONTROL |
| | | |
| Q1 | 2SC403SP | Y BUFF |
| 2 | 2SK523 | Y SAMPLE HOLD |
| 3 | 2SA844 | Y BUFF |
| 4 | 2SC403SP | R-Y/R BUFF |

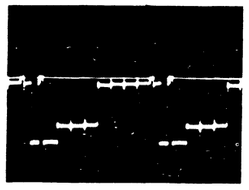
| | | |
|---|---|---|
| Q5 | 2SK523 | R-Y/Y SAMPLE HOLD |
| 6 | 2SA844 | R-Y/R BUFF |
| 7 | 2SC403SP | G-Y/R BUFF |
| 8 | 2SK523 | G-Y/Y SAMPLE HOLD |
| 9 | 2SA844 | G-Y/G BUFF |
| 10 | 2SC403SP | B-Y/B BUFF |
| 11 | 2SK523 | B-Y/B SAMPLE HOLD |
| 12 | 2SA844 | B-Y/B BUFF |
| 13 | 2SA844 | R BUFF |
| 14 | 2SA844 | G BUFF |
| 15 | 2SA844 | B BUFF |
| 16 | 2SC3068 | AGC PULSE BUFF |
| 101 | 2SK381 | R CONTRAST CONTROL |
| 102 | 2SA844 | R AMP |
| 103 | 2SC403SP | R AMP |
| 104 | 2SC403SP | R LIMITER |
| 105 | 2SC403SP | R LIMITER |
| 106 | 2SK381 | R BRIGHT CONTROL |
| 107 | 2SK381 | R CONTRAST CONTROL |
| 108 | 2SK381 | R CONTRAST CONTROL |
| 201 | 2SK381 | G CONTRAST CONTROL |
| 202 | 2SA844 | G AMP |
| 203 | 2SC403SP | G AMP |
| 204 | 2SC403SP | G LIMITER |
| 205 | 2SC403SP | G LIMITER |
| 206 | 2SK381 | G BRIGHT CONTROL |
| 207 | 2SK381 | G CONTRAST CONTROL |
| 208 | 2SK381 | G CONTRAST CONTROL |
| 301 | 2SK381 | B CONTRAST CONTROL |
| 302 | 2SA844 | B AMP |
| 303 | 2SC403SP | B AMP |
| 304 | 2SC403SP | B LIMITER |
| 305 | 2SC403SP | B LIMITER |
| 306 | 2SK381 | B BRIGHT CONTROL |
| 307 | 2SK381 | B CONTRAST CONTROL |
| 308 | 2SK381 | B CONTRAST CONTROL |
| | | |
| D1 | 1SS119 | |
| 101 | 1SS119 | R LIMITER |
| 102 | 1SS119 | R PROTECT |
| 201 | 1SS119 | G LIMITER |
| 202 | 1SS119 | G PROTECT |
| 301 | 1SS119 | B LIMITER |
| 302 | 1SS119 | B PROTECT |



*0.8Vp-p (H)*



*0.7Vp-p (H)*

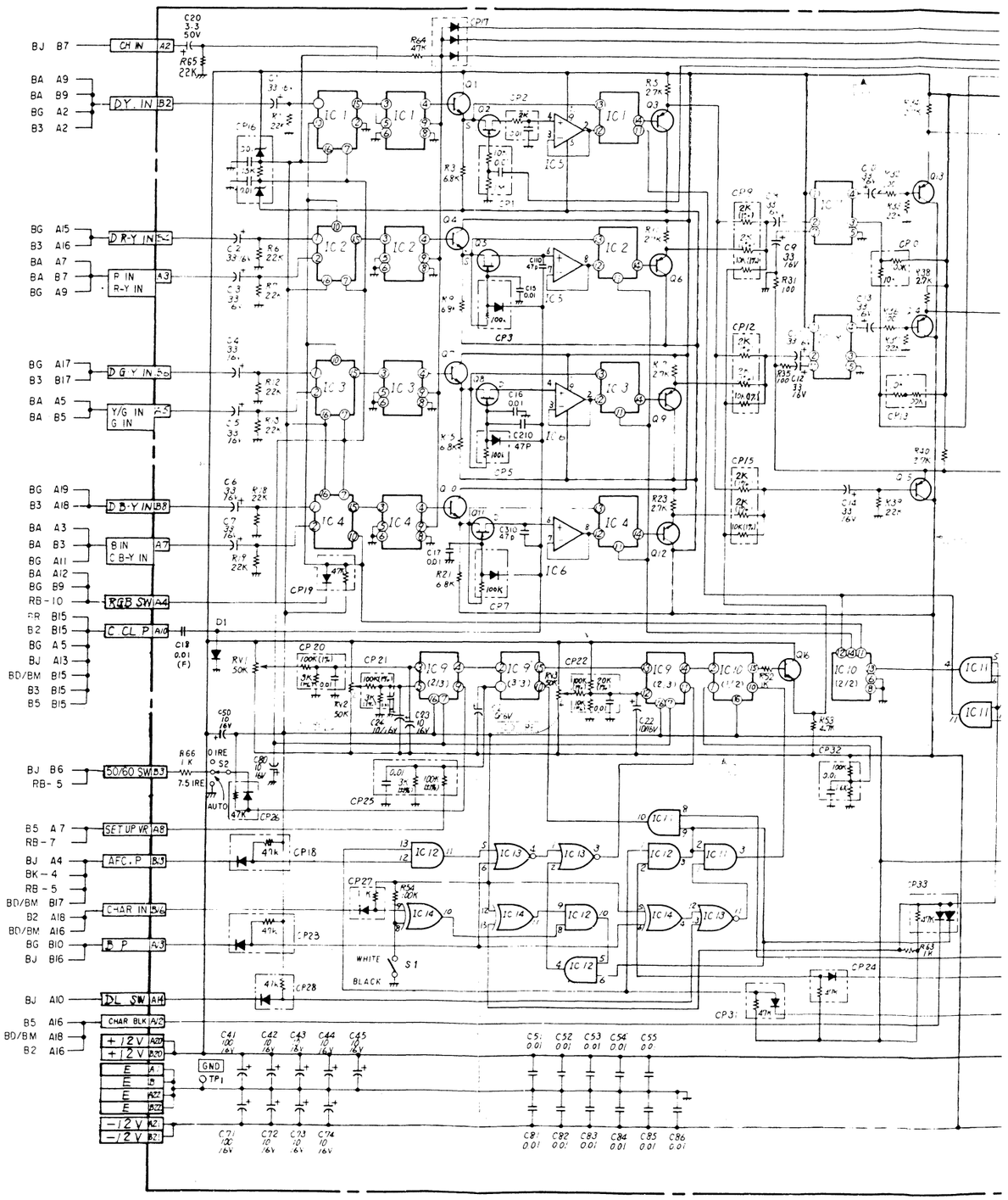


*0.8Vp-p (H)*





## BH board (Y/COLOR DIFFERENCE/RGB SIGNAL SWITCHING, Y-C MATRIX, CONTRAST/BRIGHTNESS CONTROL)



MPLE HOLD
FF
FF
MPLE HOLD
FF
FF
MPLE HOLD
FF

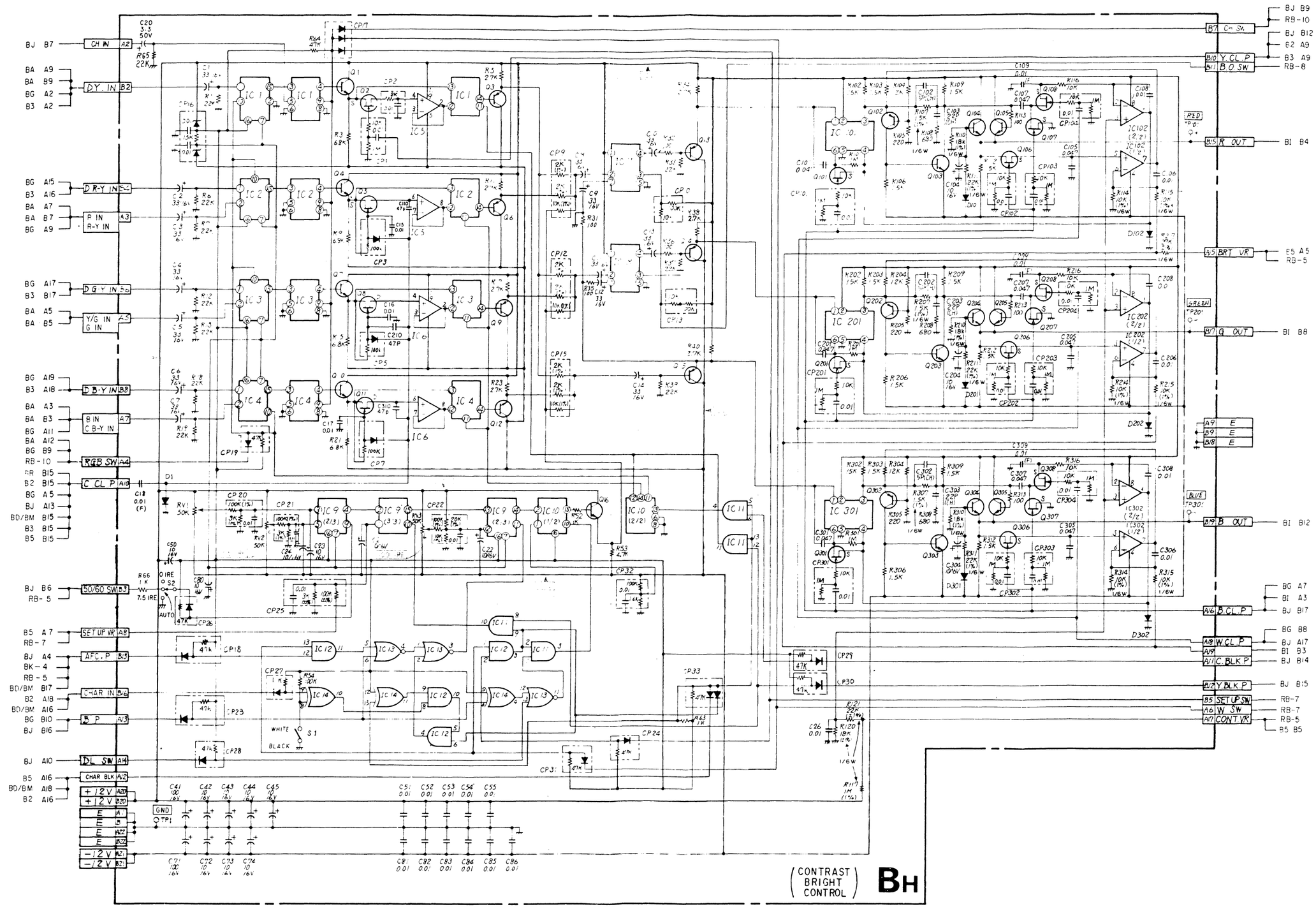
E BUFF
ST CONTROL

R
R
CONTROL
ST CONTROL
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ST CONTROL

R
R
CONTROL
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ST CONTROL
ST CONTROL

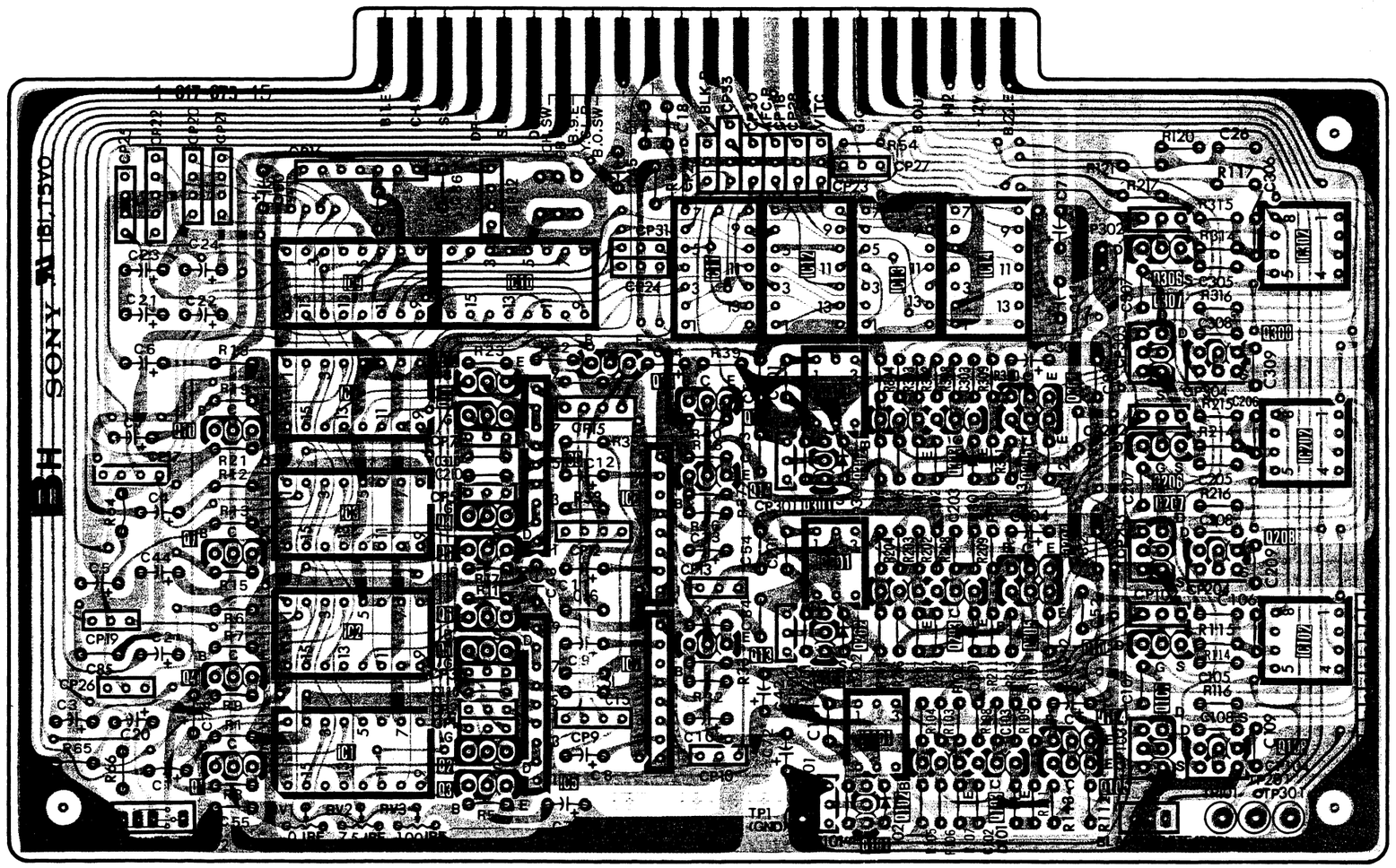
CONTROL
ST CONTROL
ST CONTROL

## BH board (Y/COLOR DIFFERENCE/RGB SIGNAL SWITCHING, Y-C MATRIX, CONTRAST/BRIGHTNESS CONTROL)



**BH board (Y/COLOR DIFFERENCE/RGB SIGNAL SWITCHING, Y-C MATRIX, CONTRAST/BRIGHTNESS CONTROL)**

| | |
|---|---|
| IC | 9 4 3 2 1 · 10 6 5 · 11 8 7 · 12 301 201 · 13 · 14 · 101 · 202 |
| Q | 10 7 4 1 · 12 11 8 9 6 5 2 3 · 16 · 15 14 13 · 301 201 · 302 202 · 303 203 · 304 305 204 205 · 104 105 · 306 307 308 206 207 208 106 107 108 |
| D | 1 · 302 202 102 · 301 201 101 |
| TP ADJ | RV1 RV2 RV3 · TP1 · TP201 TP101 TP301 |



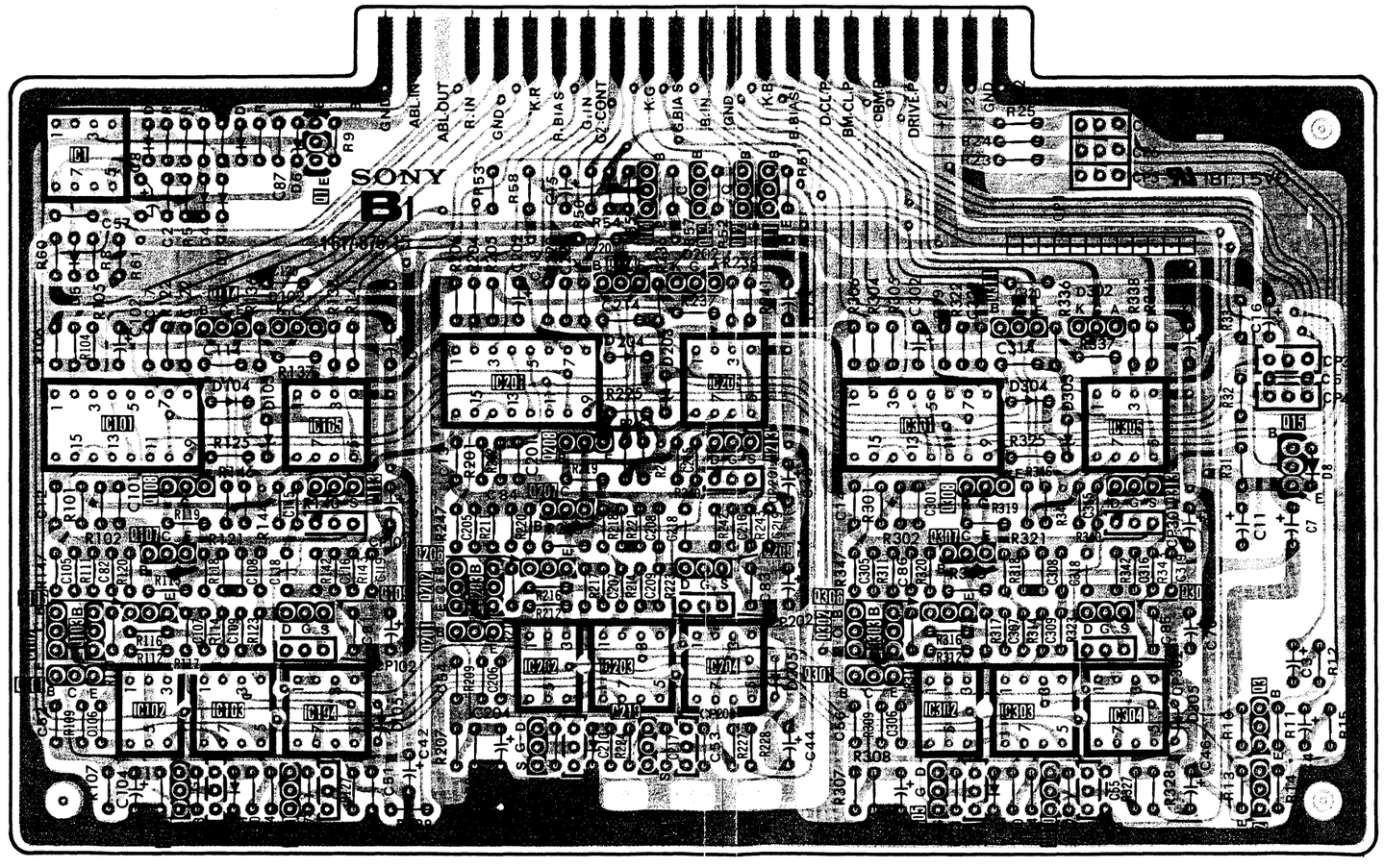





• : Conductor side pattern
• : Component side pattern

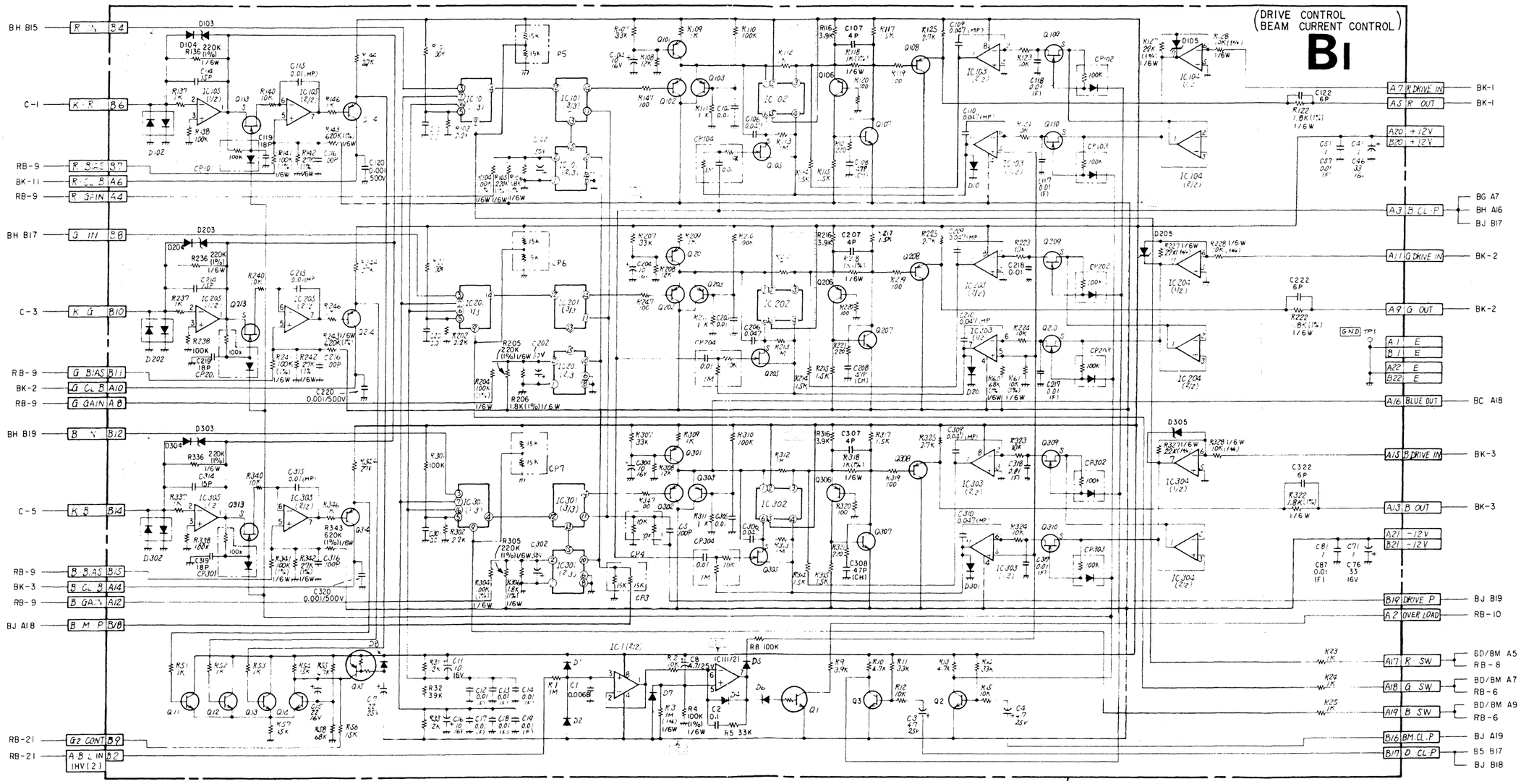
**BI board (DRIVE CONTROL, BEAM CURRENT CONTROL)**

| | |
|---|---|
| IC | 1 101 102 103 104 105 201 202 203 204 205 301 302 303 304 305 |
| Q | 1 114 108 107 102 103 101 106 105 109 113 110 202 203 201 206 208 207 205 214 14 13 12 11 209 210 213 302 303 301 306 305 307 308 310 309 314 313 15 3 2 |
| D | 7 2 4 1 104 6 102 103 101 5 105 204 202 203 201 205 304 303 301 302 305 8 |
| TP | TP1 |




- : Conductor side pattern
- : Component side pattern

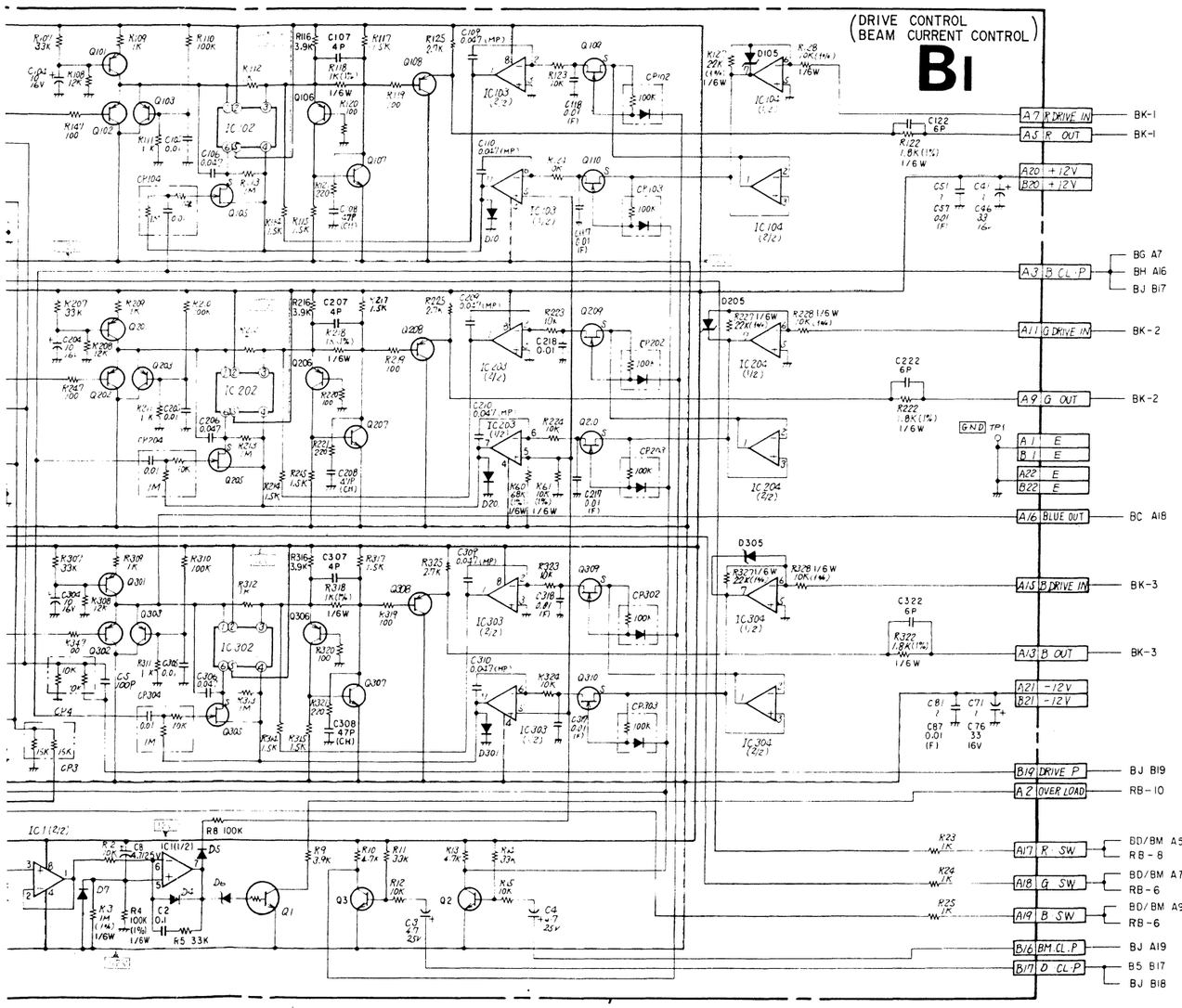
## BI board (DRIVE CONTROL, BEAM CURRENT CONTROL)




BI BOARD


IC1
101(1/3
(2/3
(3/3
102
103(1/2
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201(1/3
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203(1/2
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205(1/2
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301(1/3
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(3/3
302
303(1/2
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304
305(1/2.
(2/2.

Q1
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109



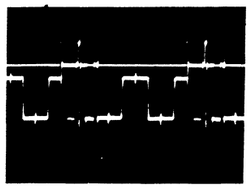




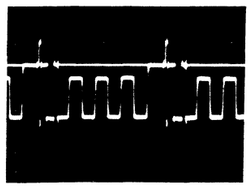

BI BOARD

| | | |
|---|---|---|
| IC1 | RC4558DQ | ABL |
| 101(1/3) | TC4053BP | SCREEN OFF SW |
| (2/3) | | AGC PULSE GEN |
| (3/3) | | AGC PULSE INSERT |
| 102 | TX-429M | GAIN CONTROL |
| 103(1/2) | TL082CP | GAIN CONTROL |
| (2/2) | | BIAS CONTROL |
| 104 | TL082CP | AMP |
| 105(1/2) | TL082CP | I-V CONVERTER |
| (2/2) | | CURRENT FEEDBACK CONTROL |
| 201(1/3) | TC4053BP | SCREEN OFF SW |
| (2/3) | | AGC PULSE GEN |
| (3/3) | | AGC PULSE INSERT |
| 202 | TX-429M | GAIN CONTROL |
| 203(1/2) | TL082CP | GAIN CONTROL |
| (2/2) | | BIAS CONTROL |
| 204 | TL082CP | AMP |
| 205(1/2) | TL082CP | I-V CONVERTER |
| (2/2) | | CURRENT FEEDBACK CONTROL |
| 301(1/3) | TC4053BP | SCREEN OFF SW |
| (2/3) | | AGC PULSE GEN |
| (3/3) | | AGC PULSE INSERT |
| 302 | TX-429M | GAIN CONTROL |
| 303(1/2) | TL082CP | GAIN CONTROL |
| (2/2) | | BIAS CONTROL |
| 304 | TL082CP | AMP |
| 305(1/2) | TL082CP | I-V CONVERTER |
| (2/2) | | CURRENT FEEDBACK CONTROL |
| | | |
| | | |
| Q1 | DTC143TS | OVER LOAD LED DRIVE |
| 2 | 2SC403SP | PULSE SHAPING |
| 3 | 2SC403SP | PULSE SHAPING |
| 11 | 2SC2878 | G2 CONTROL |
| 12 | 2SC2878 | G2 CONTROL |
| 13 | 2SC2878 | G2 CONTROL |
| 14 | 2SC2878 | G2 CONTROL |
| 15 | DTA144ES | G2 CONTROL |
| 101 | 2SA844 | LIMITER |
| 102 | 2SA844 | LIMITER |
| 103 | 2SA844 | LIMITER |
| 105 | 2SK381 | GAIN CONTROL |
| 106 | 2SA844 | AMP |
| 107 | 2SC2668 | AMP |
| 108 | 2SA844 | AMP |
| 109 | 2SK381 | SAMPLE-HOLD |

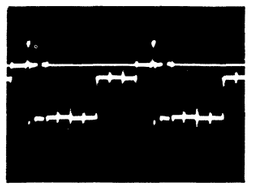
| | | |
|---|---|---|
| Q110 | 2SK381 | SAMPLE-HOLD |
| 113 | 2SK381 | SAMPLING |
| 114 | 2SA1091 | CLAMP BIAS CONTROL |
| 201 | 2SA844 | LIMITER |
| 202 | 2SA844 | LIMITER |
| 203 | 2SA844 | LIMITER |
| 205 | 2SK381 | GAIN CONTROL |
| 206 | 2SA844 | AMP |
| 207 | 2SC2668 | AMP |
| 208 | 2SA844 | AMP |
| 209 | 2SK381 | SAMPLE-HOLD |
| 210 | 2SK381 | SAMPLE-HOLD |
| 213 | 2SK381 | SAMPLING |
| 214 | 2SA1091 | CLAMP BIAS CONTROL |
| 301 | 2SA844 | LIMITER |
| 302 | 2SA844 | LIMITER |
| 303 | 2SA844 | LIMITER |
| 305 | 2SK381 | GAIN CONTROL |
| 306 | 2SA844 | AMP |
| 307 | 2SC2668 | AMP |
| 308 | 2SA844 | AMP |
| 309 | 2SK381 | SAMPLE-HOLD |
| 310 | 2SK381 | SAMPLE-HOLD |
| 313 | 2SK381 | SAMPLING |
| 314 | 2SA1091 | CLAMP BIAS CONTROL |
| | | |
| D1 | 1SS119 | PROTECTOR |
| 2 | 1SS119 | PROTECTOR |
| 4 | 1SS119 | ABL |
| 5 | 1SS119 | ABL |
| 6 | RD12ESB1 | OVER LOAD LED DRIVE |
| 7 | 1SS119 | ABL |
| 8 | 1SS119 | G2 CONTROL |
| 101 | 1SS119 | PROTECTOR |
| 102 | MC932 | PROTECTOR |
| 103 | RD4.3ES-T1B | LIMITER |
| 104 | 1SS119 | LIMITER |
| 201 | 1SS119 | PROTECTOR |
| 202 | MC932 | PROTECTOR |
| 203 | RD4.3ES-T1B | LIMITER |
| 204 | 1SS119 | LIMITER |
| 301 | 1SS119 | PROTECTOR |
| 302 | MC932 | PROTECTOR |
| 303 | RD4.3ES-T1B | LIMITER |
| 304 | 1SS119 | LIMITER |
| D105 | RD6.2ESB | |
| D205 | RD6.2ESB | |
| D305 | RD6.3ESB | |



① 1.0Vp-p(H)



③ 1.0Vp-p(H)

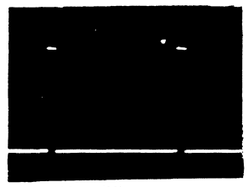


② 1.0Vp-p(H)

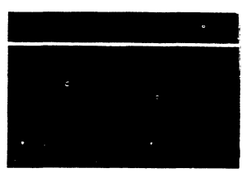
BJ BOARD

| | | |
|---|---|---|
| IC1 | HD14538BP | PIC.SET.PULSE GEN |
| 2 | MC14001BCP | CROSS HATCH GEN |
| 3 | TC4040BP | V SYNC & DELAY |
| 4 | TC4040BP | V COUNT |
| 5 | TC5040278P | V SYNC & DELAY |
| 6(1/2) | TC5040278P | CHROMA CLAMP PULSE GEN |
| (2/2) | | 2fH MULTI |
| 7 | TC5040278P | V COUNT |
| 8 | TC5040278P | 1H PULSE PROCESS |
| 9(1/2) | TC4027BP | V SYNC & DELAY |
| (2/2) | | 1H PULSE PROCESS |
| 10(1/2) | HD14538BP | B.G.P GEN 2 |
| (2/2) | | H CYCLE |
| 11(1/2) | HD14538BP | CROSS HATCH GEN |
| (2/2) | | SPLIT Y BLK, C BLK PULSE GEN |
| 12 | HD14538BP | Y CYCLE AGC & CLAMP PULSE GEN |
| 13(1/4) | MC14001BCP | CHROMA CLAMP PULSE GEN |
| (2/4) | | Y.CL.P GEN |
| (3/4) | | B.G.P GEN 2 |
| (4/4) | | RESIDUAL PULSE GEN |
| 14(1/4) | MC14001BCP | SPLIT Y BLK: C BLK PULSE GEN |
| (3/4) | | |
| (4/4) | | |
| (2/4) | | V CYCLY AGC & CLAMP PULSE GEN |
| 15 | MC14071BCP | V CYCLE AGC & CLAMP PULSE GEN |
| 16(1/4) | MC14011BCP | CROSS HATCH GEN |
| (2/4) | | Y CYCLE AGC & CLAMP PULSE GEN |
| (3/4) | | H OR V BLK, P |
| (4/4) | | SPLIT Y BLK, C BLK PULSE GEN |
| 17 | MC14011BCP | CROSS HATCH GEN |
| 18 | TC4023BP | CROSS HATCH GEN |
| 19(1/4) | MC14081BCP | V COUNT |
| (2/4) | | V SYNC & DELAY |
| (3/4) | | 2fH MULTI |
| (4/4) | | 1H PULSE PROCESS |
| 20 | MC14081BCP | V COUNT |
| 21(1/4) | MC14071BCP | V CYCLE AGC & CLAMP PULSE GEN |
| (2/4) | | V SYNC & DELAY |
| (3/4) | | V COUNT |
| (4/4) | | 2fH MULTI |
| 22(1/4) | MC14071BCP | V COUNT |
| (2/4) | | V SYNC & DELAY |
| (3/4) | | |
| (4/4) | | |

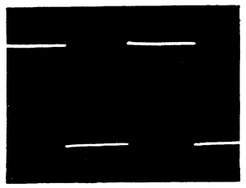
| | | |
|---|---|---|
| IC23(1/3) | TC4073BP | V SYNC & DELAY |
| (2/3) | | V COUNT |
| (3/3) | | |
| 24(1/5) | MC14069UBCP | V SYNC & DELAY |
| (2/5) | | CROSS HATCH GEN |
| (3/5) | | V COUNT |
| (5/5) | | 1H PULSE PROCESS |
| 25(1/6) | MC14069UBCP | INV |
| (2/6) | | H OR V BLK.P |
| (3/6) | | Y CYCLE AGC & CLAMP PULSE GEN |
| (4/6) | | CROSS HATCH GEN |
| (5/6) | | |
| (6/6) | | |
| 26 | MC14175BCP | 1H PULSE PROCESS |
| 27(1/3) | MC14053BCP | CLAMP PULSE CHANGE SW |
| (2/3) | | CROSS HATCH GEN |
| (3/3) | | H OR V DL SW |
| 28 | TC4520BP | CROSS HATCH GEN |
| 29(1/2) | HD14538BP | B.G.P GEN 1 |
| (2/2) | | Y.CL.P GEN |
| | | |
| | | |
| Q14 | 2SC2785 | CROSS HATCH GEN |
| 15 | 2SC2785 | Y.CL.P GEN |
| 16 | 2SC2785 | Y.CL.P GEN |
| 17 | 2SC2785 | CHROMA CLAMP PULSE GEN |
| 18 | 2SC2785 | CHROMA CLAMP PULSE GEN |
| 19 | 2SA1115 | H CYCLE |
| 20 | 2SC2785 | H CYCLE |
| 21 | 2SC2785 | H CYCLE |
| 22 | 2SC2785 | H CYCLE |
| 23 | 2SA1048 | H CYCLE |
| 24 | 2SC2785 | H CYCLE |
| 25 | 2SC2785 | CHROMA CLAMP PULSE GEN |
| 26 | 2SC2785 | Y.CL.P GEN |
| | | |
| | | |
| D1 | 1SS119 | CROSS HATCH GEN |
| 2 | 1SS119 | H CYCLE |
| 3 | 1SS119 | H CYCLE |
| 7 | 1SS119 | 1H PULSE PROCESS |
| 8 | 1SS119 | V SYNC & DELAY |
| 9 | 1SS119 | 2fH MULTI |
| 11 | MC932 | PROT |



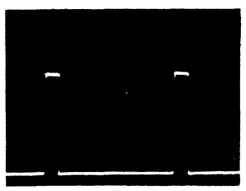
1 12Vp-p (H)
2 12Vp-p (H)



3 12Vp-p (V)



4 12Vp-p (H)
5 12Vp-p (H)

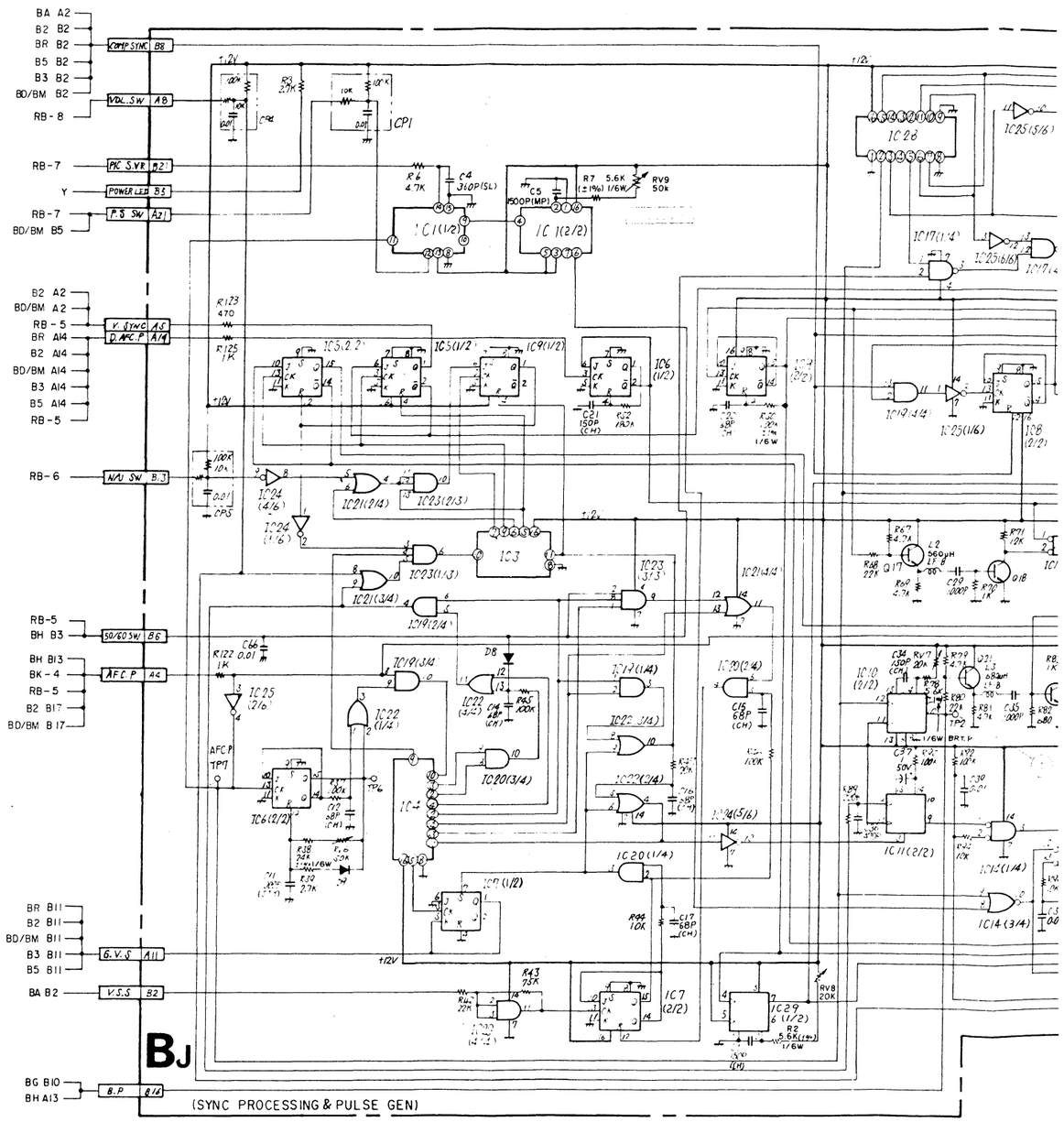


6 12Vp-p (H)





## BJ board (SYNC PROCESSING & PULSE GEN)



& DELAY

& DELAY

ATCH GEN

E PROCESS

BLK.P
AGC & CLAMP PULSE GEN

ATCH GEN

E PROCESS

ULSE CHANGE SW

ATCH GEN

DL SW

ATCH GEN

EN 1

GEN

ATCH GEN

GEN

GEN

CLAMP PULSE GEN

CLAMP PULSE GEN

CLAMP PULSE GEN

GEN

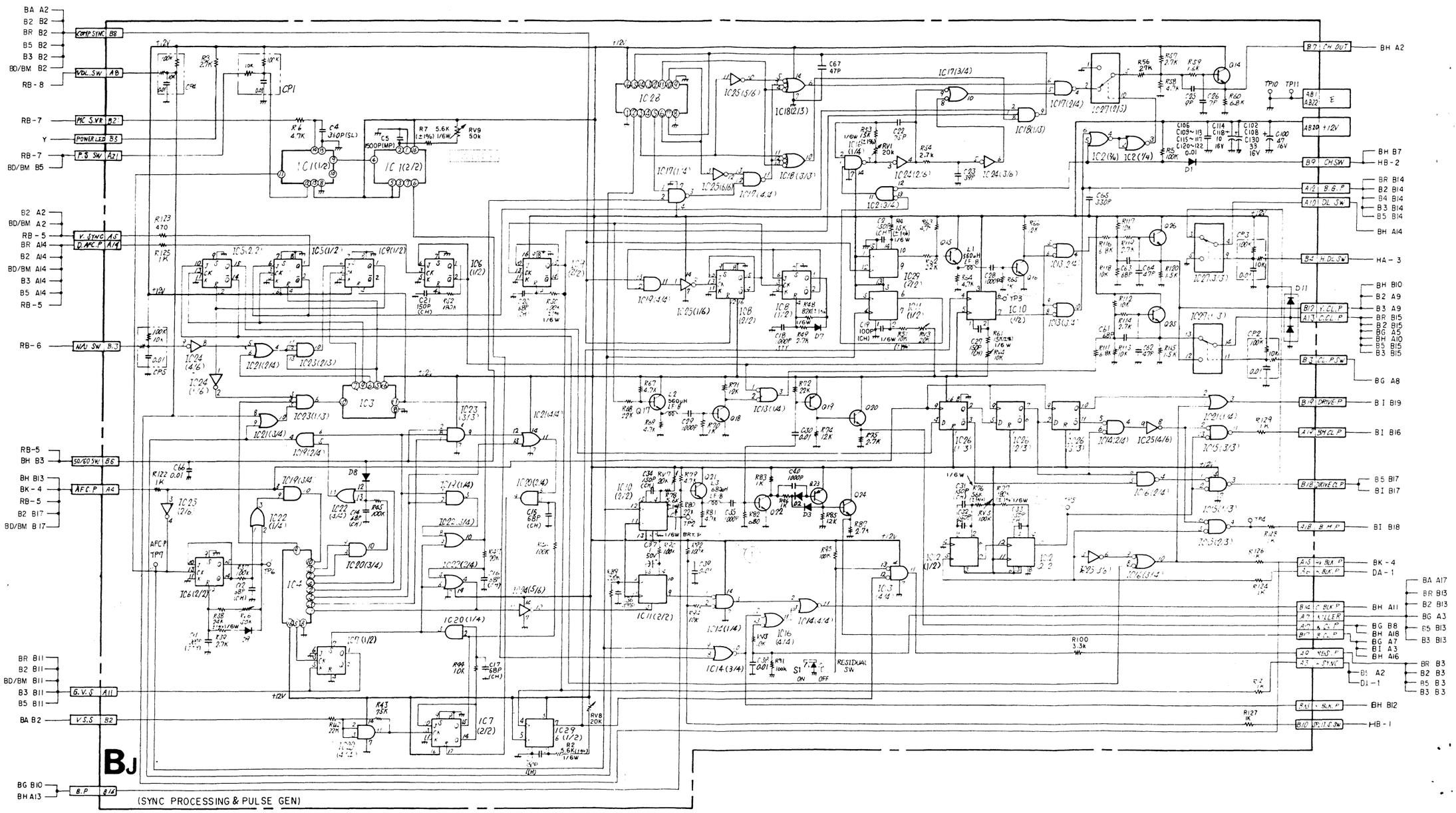
ATCH GEN

E PROCESS

& DELAY

TI

## BJ board (SYNC PROCESSING & PULSE GEN)



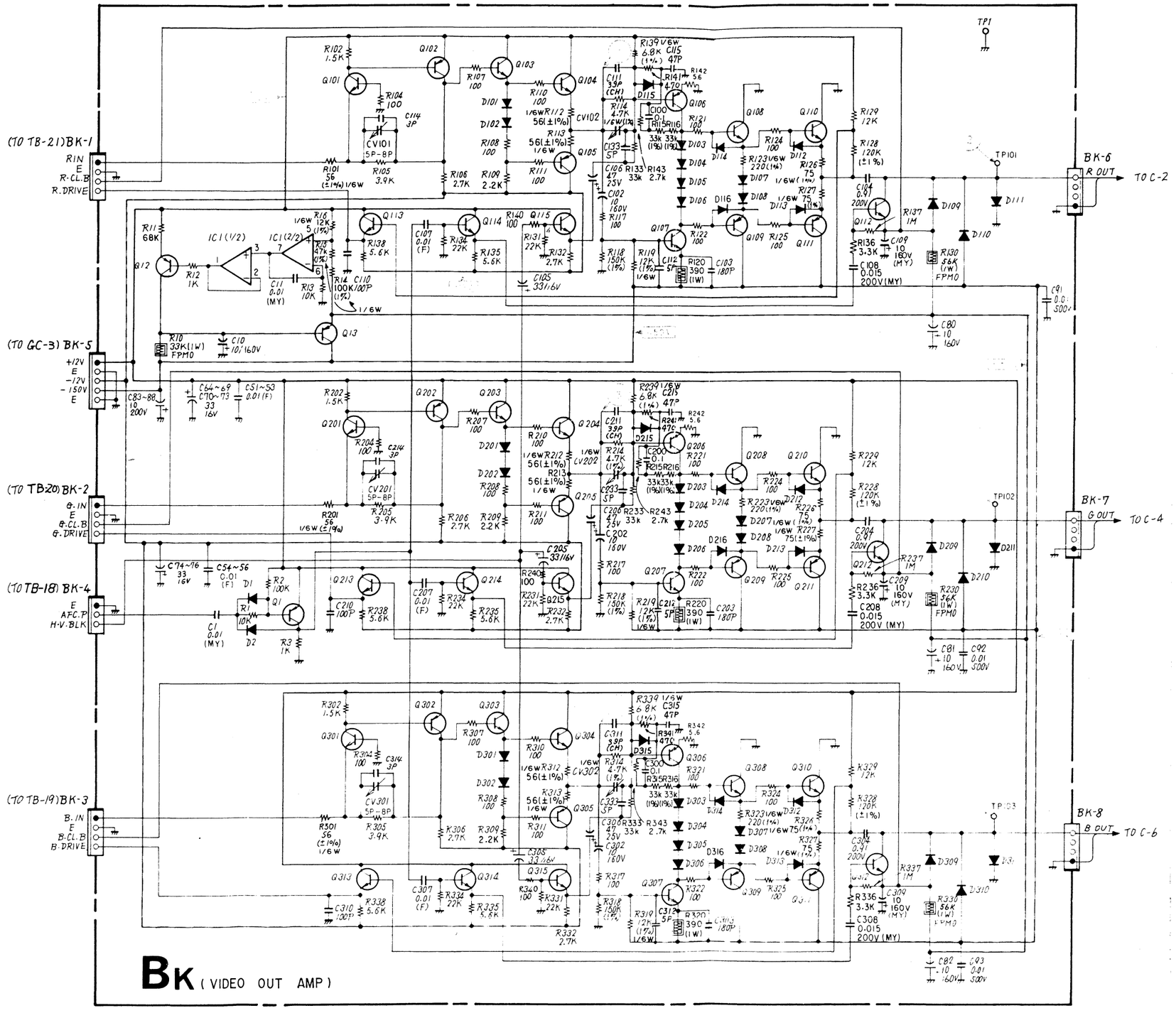
**BJ board (SYNC PROCESSING & PULSE GEN)**

| | | |

**BK board (VIDEO OUT AMP)**

| | | |

## BK board (VIDEO OUT AMP)

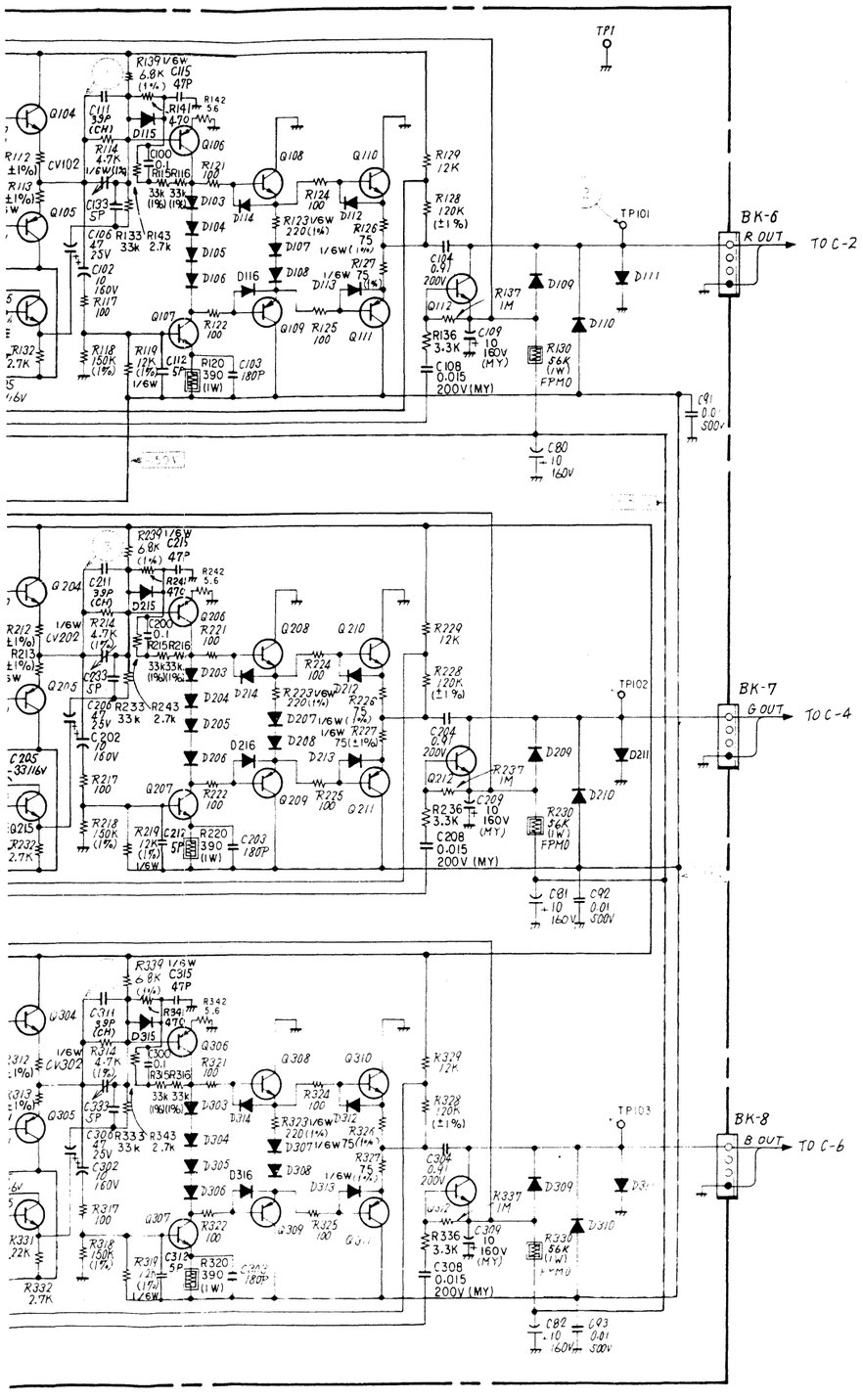







BK BOARD

| IC1 |
|---|
| |
| |
| Q1 |
| 12 |
| 13 |
| 101 |
| 102 |
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| 105 |
| 106 |
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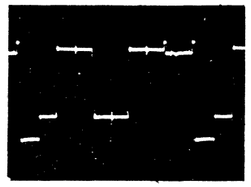




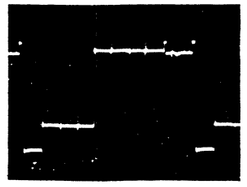

BK BOARD

| IC1 | RC4558DD | LIPPLE FILTER |
|---|---|---|
| | | |
| Q1 | 2SA844 | INVERTER |
| 12 | 2SA1091 | LIPPLE FILTER |
| 13 | 2SA1091 | LIPPLE FILTER |
| 101 | 2SC2668 | R-PRE AMP. |
| 102 | 2SA844 | R-PRE AMP. |
| 103 | 2SC403SP | BUFF. |
| 104 | 2SC403SP | BUFF. |
| 105 | 2SA844 | BUFF. |
| 106 | 2SA1406 | R-VIDEO OUT |
| 107 | 2SC3600 | R-VIDEO OUT |
| 108 | 2SC3600 | BUFF. |
| 109 | 2SA1406 | BUFF. |
| 110 | 2SC3600 | BUFF. |
| 111 | 2SA1406 | BUFF. |
| 112 | 2SC2551 | R-CLAMP |
| 113 | 2SC403SP | R-CLAMP |
| 114 | 2SC403SP | R-CLAMP |
| 115 | 2SC403SP | BLANK PULSE BUFF. |
| 201 | 2SC2668 | G-PRE AMP. |
| 202 | 2SA844 | G-PRE AMP. |
| 203 | 2SC403SP | BUFF. |
| 204 | 2SC403SP | BUFF. |
| 205 | 2SA844 | BUFF. |
| 206 | 2SA1406 | G-VIDEO OUT |
| 207 | 2SC3600 | G-VIDEO OUT |
| 208 | 2SC3600 | BUFF. |
| 209 | 2SA1406 | BUFF. |
| 210 | 2SC3600 | BUFF. |
| 211 | 2SA1406 | BUFF. |
| 212 | 2SC2551 | G-CLAMP |
| 213 | 2SC403SP | G-CLAMP |
| 214 | 2SC403SP | G-CLAMP |
| 215 | 2SC403SP | BLANK PULSE BUFF. |
| 301 | 2SC2668 | B-PRE AMP. |
| 302 | 2SA844 | B-PRE AMP. |
| 303 | 2SC403SP | BUFF. |
| 304 | 2SC403SP | BUFF. |
| 305 | 2SA844 | BUFF. |
| 306 | 2SA1406 | B-VIDEO OUT |
| 307 | 2SC3600 | B-VIDEO OUT |
| 308 | 2SC3600 | BUFF. |
| 309 | 2SA1406 | BUFF. |
| 310 | 2SC3600 | BUFF. |
| 311 | 2SA1406 | BUFF. |
| 312 | 2SC2551 | B-CLAMP |
| 313 | 2SC403SP | B-CLAMP |
| 314 | 2SC403SP | B-CLAMP |
| 315 | 2SC403SP | BLANK PULSE BUFF. |

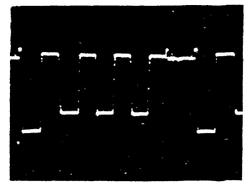
| D1 | 1SS119 | INVERTER |
|---|---|---|
| 2 | 1SS119 | INVERTER |
| 101 | 1SS119 | BIAS |
| 102 | 1SS119 | BIAS |
| 103 | 1SS119 | BIAS |
| 104 | 1SS119 | BIAS |
| 105 | 1SS119 | BIAS |
| 106 | 1SS119 | BIAS |
| 107 | 1SS119 | BIAS |
| 108 | 1SS119 | BIAS |
| 109 | 1SS83 | CLAMP |
| 110 | RU-1A | PROTECTOR |
| 111 | RU-1A | PROTECTOR |
| 112 | 1SS119 | PROTECTOR |
| 113 | 1SS119 | PROTECTOR |
| 114 | 1SS119 | PROTECTOR |
| 115 | 1SS119 | PROTECTOR |
| 116 | 1SS119 | PROTECTOR |
| 201 | 1SS119 | BIAS |
| 202 | 1SS119 | BIAS |
| 203 | 1SS119 | BIAS |
| 204 | 1SS119 | BIAS |
| 205 | 1SS119 | BIAS |
| 206 | 1SS119 | BIAS |
| 207 | 1SS119 | BIAS |
| 208 | 1SS119 | BIAS |
| 209 | 1SS83 | CLAMP |
| 210 | RU-1A | PROTECTOR |
| 211 | RU-1A | PROTECTOR |
| 212 | 1SS119 | PROTECTOR |
| 213 | 1SS119 | PROTECTOR |
| 214 | 1SS119 | PROTECTOR |
| 215 | 1SS119 | PROTECTOR |
| 216 | 1SS119 | PROTECTOR |
| 301 | 1SS119 | BIAS |
| 302 | 1SS119 | BIAS |
| 303 | 1SS119 | BIAS |
| 304 | 1SS119 | BIAS |
| 305 | 1SS119 | BIAS |
| 306 | 1SS119 | BIAS |
| 307 | 1SS119 | BIAS |
| 308 | 1SS119 | BIAS |
| 309 | 1SS83 | CLAMP |
| 310 | RU-1A | PROTECTOR |
| 311 | RU-1A | PROTECTOR |
| 312 | 1SS119 | PROTECTOR |
| 313 | 1SS119 | PROTECTOR |
| 314 | 1SS119 | PROTECTOR |
| 315 | 1SS119 | PROTECTOR |
| 316 | 1SS119 | PROTECTOR |
| | | |



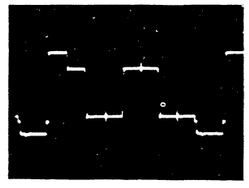
1 3.6Vp-p (H)



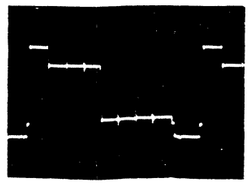
2 4.0Vp-p (H)



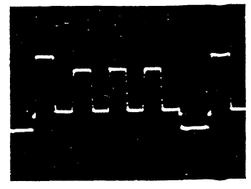
3 3.0Vp-p (H)



60Vp-p (H)



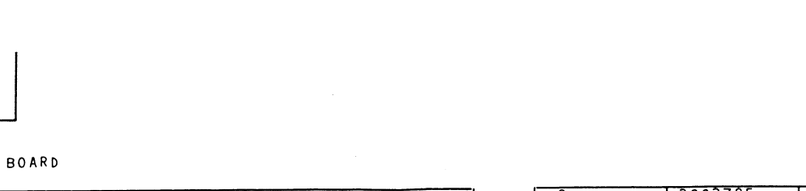
66Vp-p (H)



54Vp-p (H)

DA BOARD

| | | |
|---|---|---|
| IC1 | MB84027B | H. BLK. WIDTH |
| 2 | HD14011BP | H. DELAY. POSITION |
| 3 | TC4093BP | BUFFER |
| 4 | CX-158 | H. OSC AFC |
| 5 | TL082CP | H. LIN. GEN. |
| 6 | TL082CP | H. LIN. GEN. |
| 7 | MC1496P | H. LIN. MOD. |
| 8 | LM2903DQ | 1/2H, 1/2V. GEN. |
| 9 | TL082CP | H. BLK. PHASE |
| 10 | LM2903DQ | T & B. H. PHASE |
| 11 | TL082CP | T & B PIN. GEN. |
| 12 | MC1496P | T & B. PIN MOD. |
| 13 | uPD4066BC | 50/60 SW. |
| 14 | uPD4066BC | DEF. LEVEL. SW |
| 15 | uPD4066BC | DEF. LEVEL. SW |
| 16 | uPD4066BC | DEF. LEVEL. SW |
| 17 | RC4558DQ | BUFFER |
| 18 | CX23025 | 50/60 SELECTOR |
| 19 | RC4558DQ | V. SAWTOOTH. GEN. |
| 20 | RC4558DQ | SIDE. PIN. GEN. |
| 21 | RC4558DQ | SIDE. PIN. GEN. |
| 22 | RC4558DQ | V. SAWTOOTH GEN. |
| 23 | RC4558DQ | BUFFER |
| 24 | uPC78M12H | +12V REG. |
| 25 | uPC79M12H | -15V REG. |
| | TL082CP | BUFFER |
| | | |
| Q1 | DTC144ES | H. OSC. SW |
| 2 | 2SC2785 | H. LIN. GEN |
| 3 | 2SC2785 | H. LIN. GEN |
| 4 | 2SC2785 | 1/2H. P. GEN. |
| 5 | 2SC2785 | H. BLK. GEN. |
| 6 | 2SC2785 | H. BLK. GEN. |
| 7 | 2SC2785 | T & B PIN. PHASE |
| 8 | 2SC2785 | T & B PIN. GEN. |
| 9 | 2SC2785 | T & B PIN. GEN. |
| 10 | 2SC3068 | T & B PIN. MOD. |
| | | |
| 12 | DTC144ES | 50/60 SW |
| 13 | DTC144ES | SCAN. SW |
| 14 | DTC144ES | SCAN. SW |
| 15 | DTC144ES | SCAN. SW |
| 16 | DTC144ES | SCAN. SW |
| 17 | DTC144ES | 50/60 SW |
| 18 | 2SC2785 | BUFFER |
| 19 | 2SC2785 | V. SAW. GEN |
| 20 | 2SC2785 | V. SAW. CLIP |
| 21 | 2SC2785 | SIDE PIN GEN |
| 22 | 2SC2785 | SIDE PIN GEN |
| 23 | 2SC2785 | SIDE PIN GEN |
| 24 | 2SC2785 | V. SAW GEN. |
| | | |
| D1 | 1SS148 | H. DELAY SW |
| 2 | 1SS148 | H. DELAY SW |
| 3 | RD6.8EB | CLIPPER |
| 4 | RD6.8EB | CLIPPER |
| 5 | RD12E-B | 50/60 SW |
| 6 | RD12E-B | SCAN SW |
| 7 | 1SS148 | SCAN SW |
| 8 | 1SS148 | SCAN SW |
| 9 | RD7.5E-B | +7.5V REG. |
| 10 | RD7.5E-B | -7.5V REG. |
| 11 | RD15E-B | 50/60 SW. |
| 12 | RD5.6E-B | V. SAW. CLIP |
| 13 | 1SS148 | V. SAW. CLIP |
| 14 | 1SS148 | V. SAW. CLIP |
| 15 | 1SS148 | AFC.CLIP |
| 18 | 1SS148 | PROT |
| 19 | 1SS148 | |



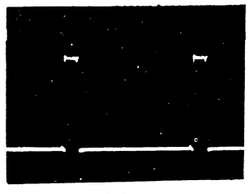
14Vp-p (H)



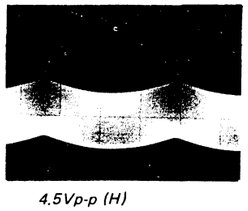
10Vp-p (H)



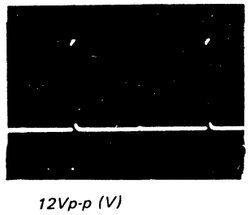
2.5Vp-p (V)



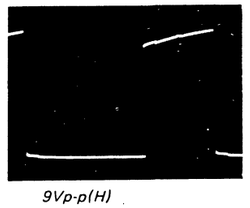
14Vp-p (H)



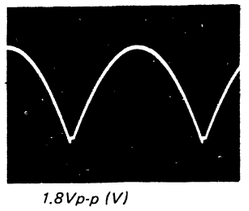
4.5Vp-p (H)



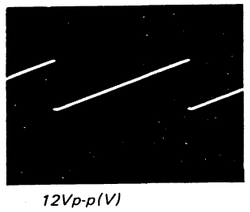
12Vp-p (V)



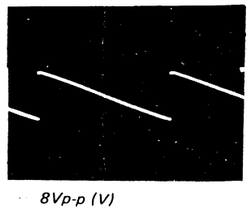
9Vp-p(H)



1.8Vp-p (V)



12Vp-p(V)

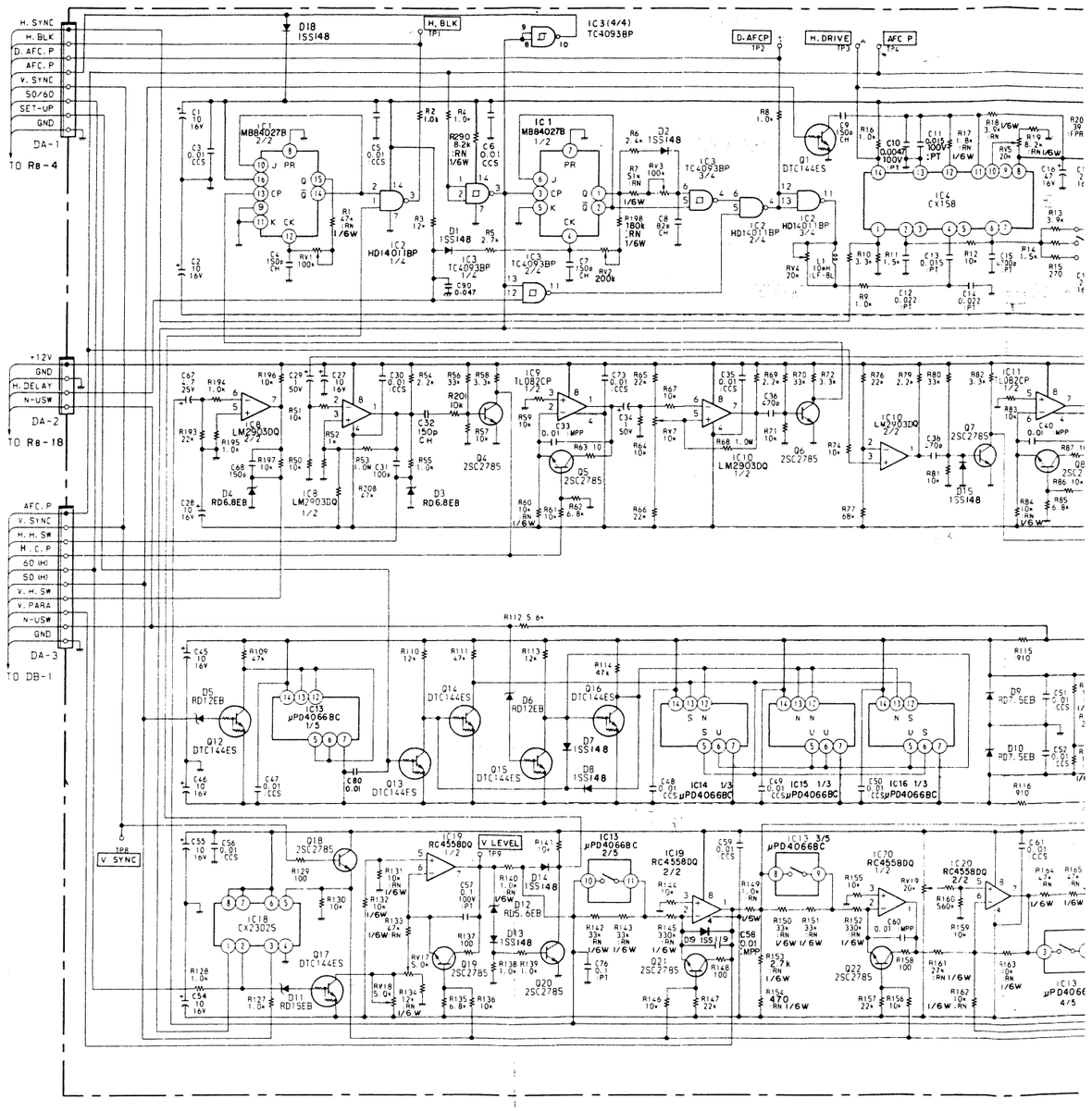


8Vp-p (V)





**DA board (DEFLECTION WAVEFORM)**



## DA board (DEFLECTION WAVEFORM)

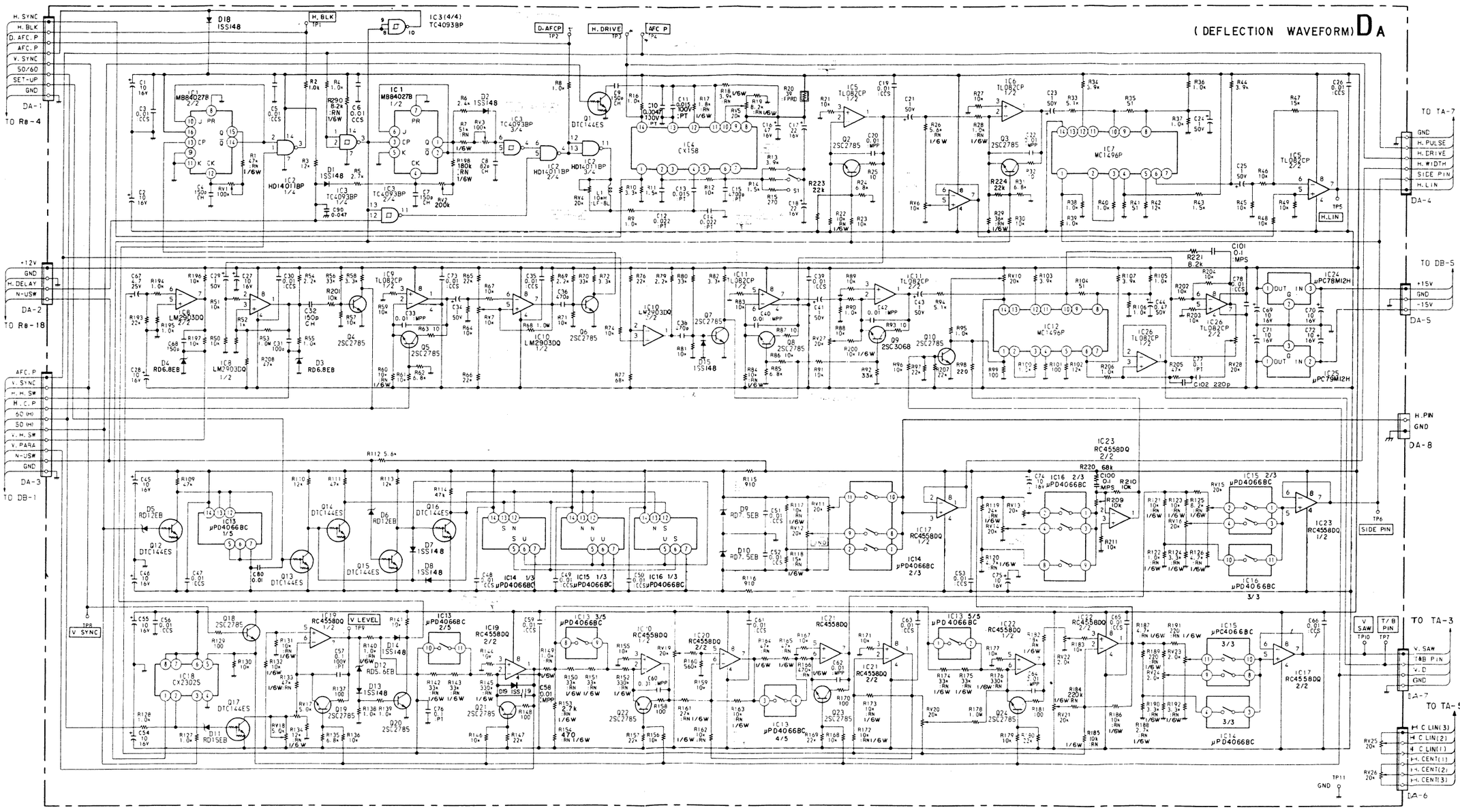
& B PIN. GEN.
& B PIN. GEN.
& B PIN. MOD.

/60 SW
AN. SW
AN. SW
AN. SW
AN. SW
/60 SW
FFER
SAW. GEN
SAW. CLIP
DE PIN GEN
DE PIN GEN
DE PIN GEN
SAW GEN.

DELAY SW
DELAY SW
IPPER
IPPER
/60 SW
AN SW
AN SW
AN SW
.5V REG.
.5V REG.
/60 SW.
SAW. CLIP
SAW. CLIP
SAW. CLIP
:.CLIP
)T

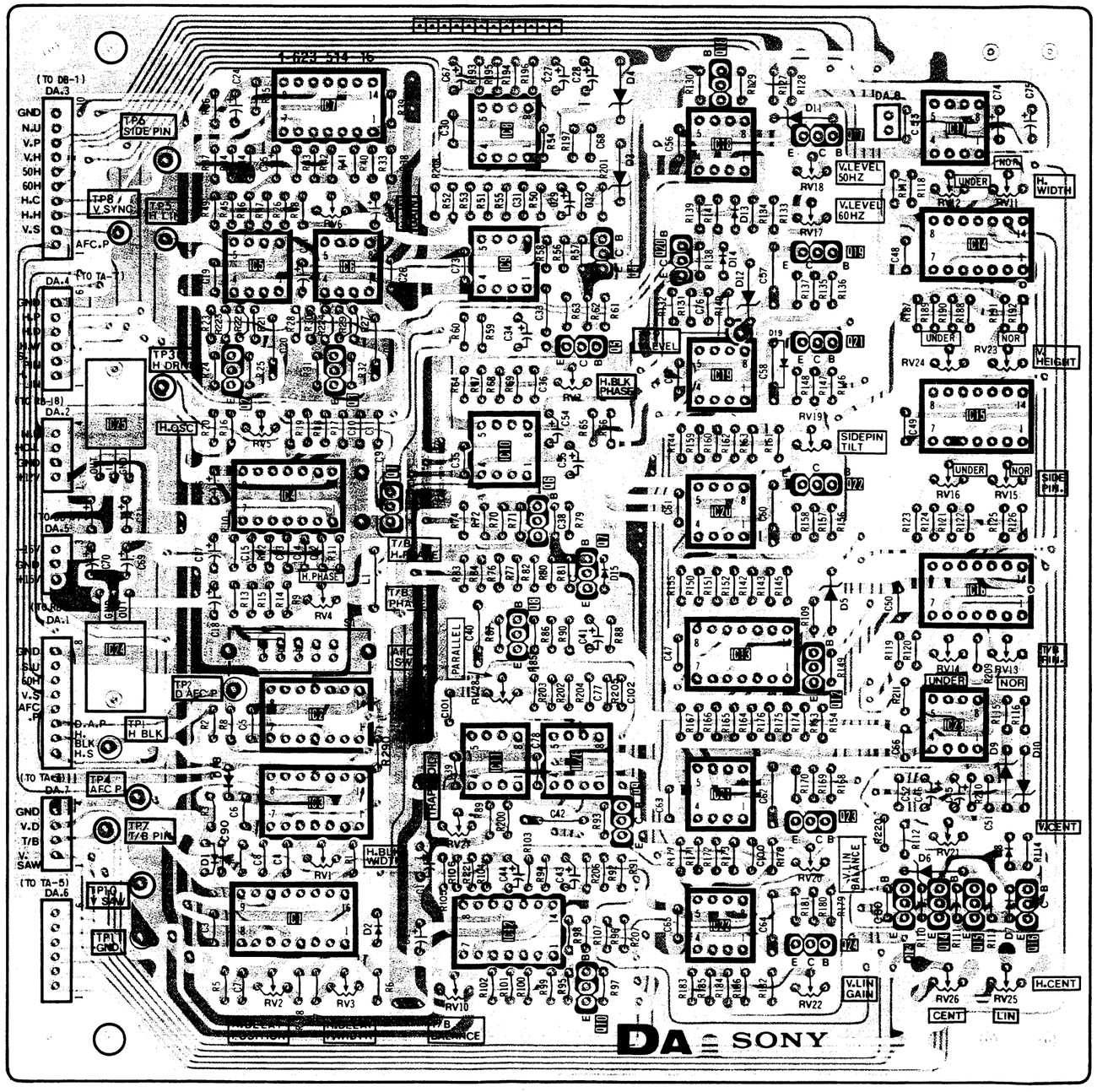


8Vp-p (V)



## DA board (DEFLECTION WAVEFORM)

| IC | Q | D | TP ADJ |
|---|---|---|---|
| | 18 | 4 | |
| 7 | | 11 | |
| 8 18 17 | 17 | | |
| | | | TP6 RV18 |
| | | 3 | RV12 RV11 |
| | | 13 | RV6 RV17 |
| | | 14 | TP8 |
| 14 | 19 | | TP5 |
| 5, 6, 9 | 4,20 | | |
| | | 12 | |
| | 21 | 19 | TP9 |
| | 5 | | RV24 RV23 |
| 19 | 2 3 | | TP3 |
| | | | RV7 |
| 25 15 | | | |
| | | | RV5 |
| | | | RV19 |
| 10 | | | |
| | | | RV16 RV15 |
| 4 | 22 | | |
| 20 | 1 | | |
| | 6 | | |
| | | 15 | |
| | 7 | 5 | |
| 16 | | | |
| | | | RV4 |
| | 8 | | |
| 13 | | | |
| | | | RV14 RV13 |
| 24 | 12 | | TP2 |
| | | | RV28 |
| 2 23 | | | |
| | | | TP1 |
| 11,26 | | 9 | |
| 3 21 | | 10 | TP4 |
| | | 18 | |
| | 9 | | |
| | 23 | | TP7 RV27 RV21 |
| | | 1 8 | RV1 RV20 |
| | | 6 | |
| | 13,14 | 7 | TP10 |
| | 15,16 | | |
| 1 12 22 | | 2 | TP11 |
| | 24 | | |
| | | | RV2 RV10 RV26 |
| | 10 | | RV3 RV22 RV25 |

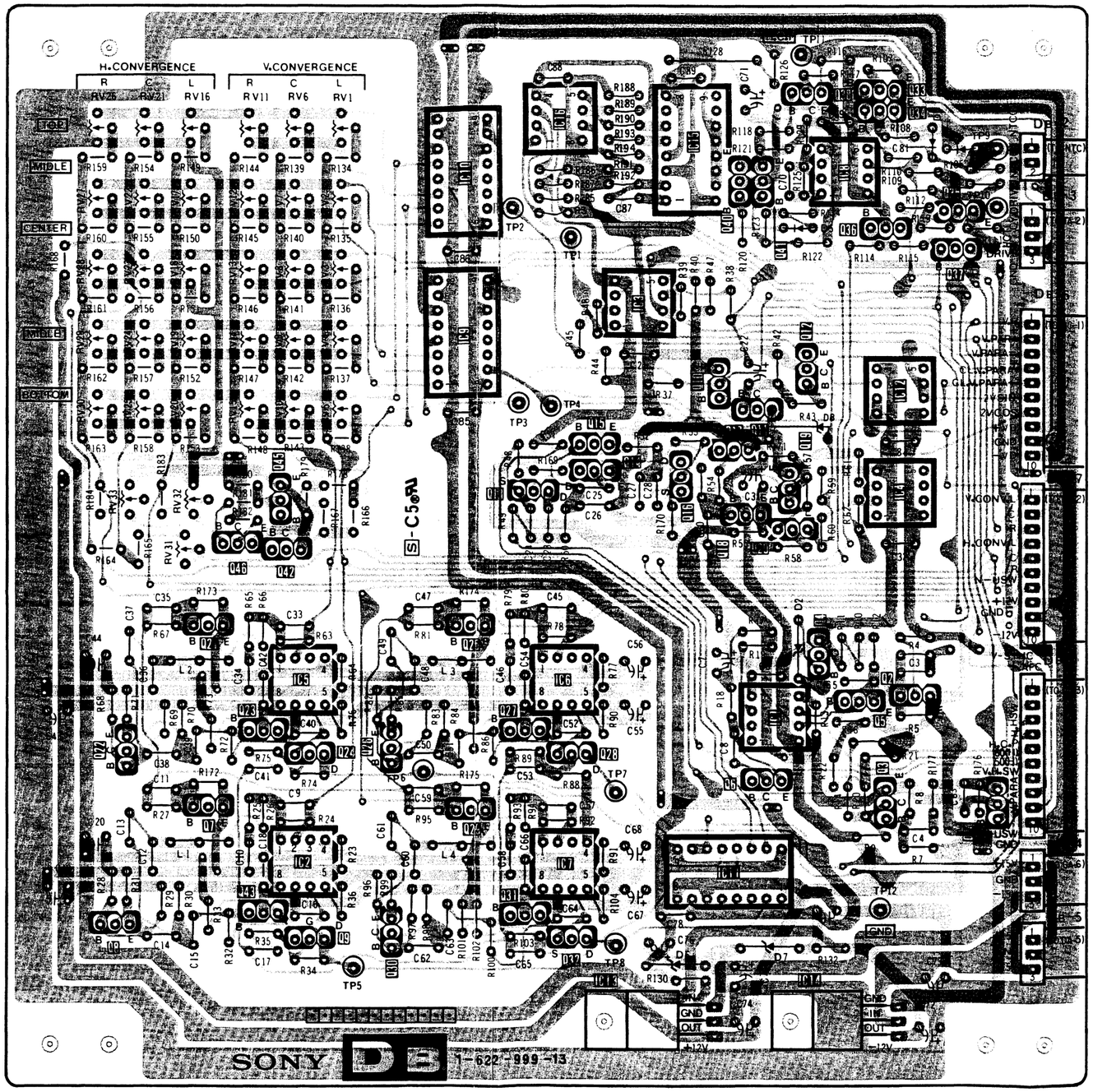



● : Conductor side pattern

● : Component side pattern

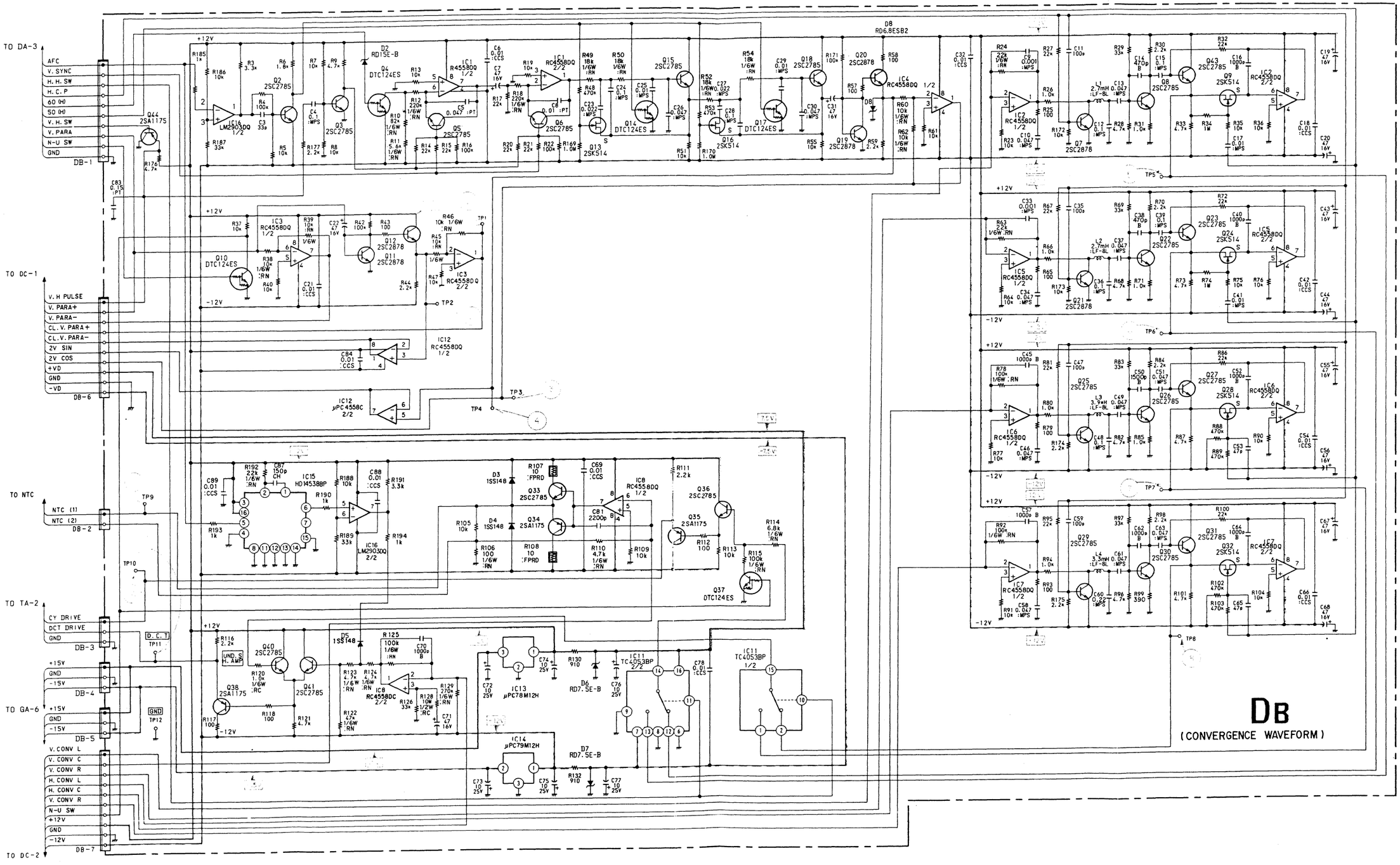
**DB board (CONVERGENCE WAVEFORM)**

| IC | Q | D | TP |
|---|---|---|---|
| | | | 11 |
| | 38 33 | | |
| 16 | 34 | | |
| | | 4 | |
| 15 | | 3 | 9 |
| | 40 41 | | |
| 8 | | | 10 |
| | 35 | | 2 |
| | 36 | 5 | 1 |
| | 37 | | |
| 3 | | | |
| | 10,12 | | |
| 12 | | | 3 |
| | 11 | 8 | 4 |
| | 15 17 | | |
| | 14,16 | | |
| | 13 19 | | |
| 4 | | | |
| | 18 | | |
| | 20 | | |
| | 21 25 | | |
| | 4 | 2 | |
| 5 6 | | | |
| | 5 2 | | |
| 1 | | | |
| | 23 27 | | |
| | 22 24,26 28 | | |
| | | | 6 7 |
| | 6 | | |
| | 7 29 | | |
| | 3,44 | | |
| 2 7 11 | | | |
| | 43 31 | | 12 |
| | 8 9,30,32 | | |
| | | 7 | 8 |
| | | 6 | 5 |
| 13,14 | | | |




● : Conductor side pattern
● : Component side pattern

## DB board (CONVERGENCE WAVEFORM)








DB BOAR

| IC 1 |
|---|
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |
| 16 |
| |
| Q 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |
| 16 |
| 17 |
| 18 |
| 19 |



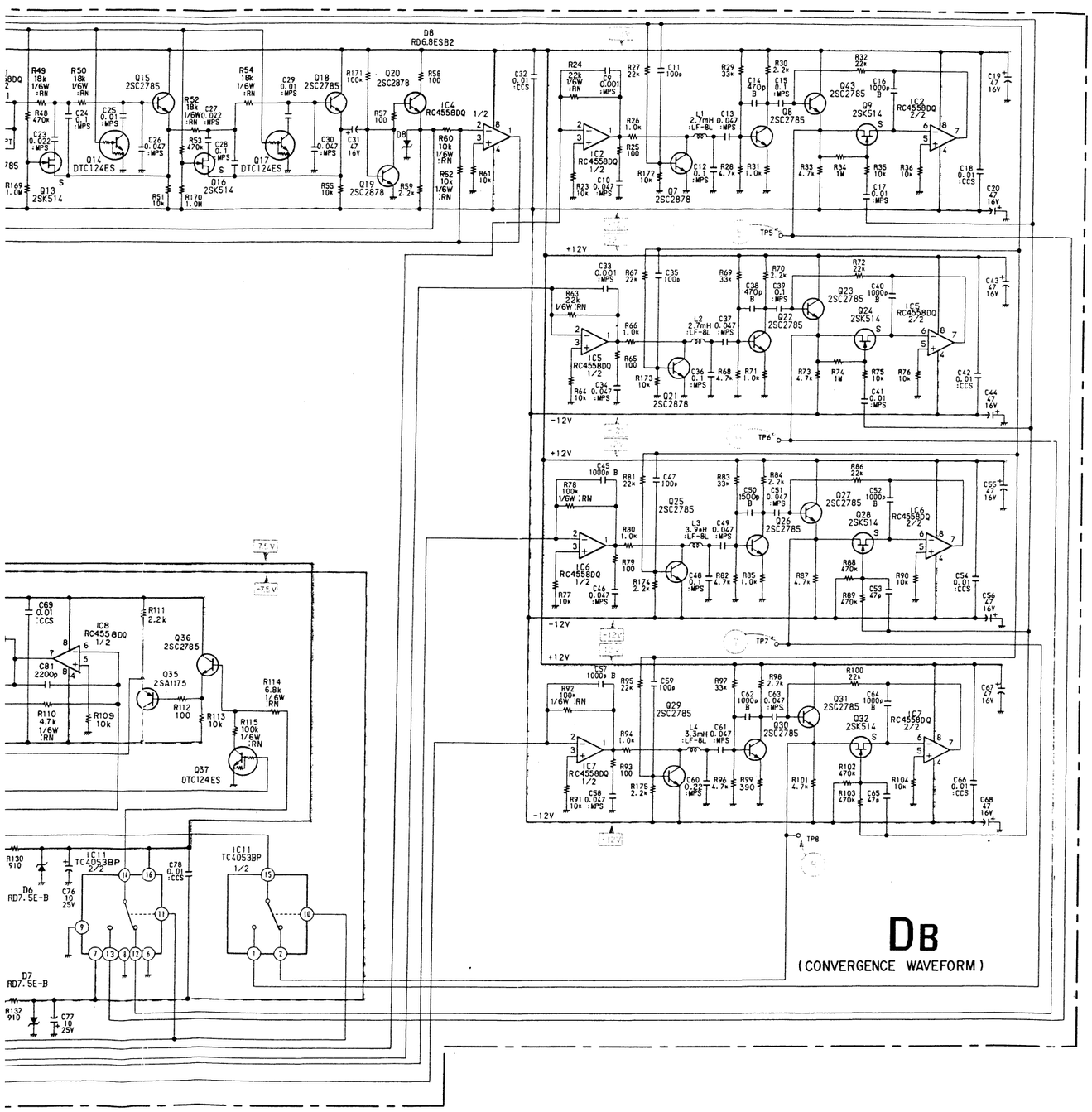
(1) 5.8Vp



(2) 5.8Vp



(3) 2.0Vp
(4) 2.0Vp




**DB**
(CONVERGENCE WAVEFORM)

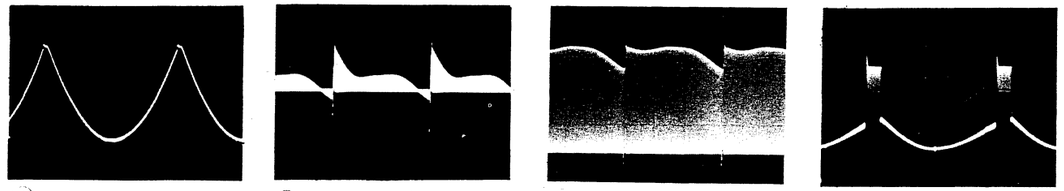




DB BOARD

| | | |
|---|---|---|
| IC 1 | RC4558DQ | 2XV GEN |
| 2 | RC4558DQ | AMP & CLAMP |
| 3 | RC4558DQ | INVERTER |
| 4 | RC4558DQ | INVERTER |
| 5 | RC4558DQ | AMP & CLAMP |
| 6 | RC4558DQ | AMP & CLAMP |
| 7 | RC4558DQ | AMP & CLAMP |
| 8 | RC4558DQ | AMP |
| 11 | TC4053BPHB | 1/2HV. SW |
| 12 | RC4558DQ | BUFFER |
| 13 | uPC78M12H | +12V REG. |
| 14 | uPC79M12H | -12V REG. |
| 15 | HD14538BP | H.CONV CLAMP |
| 16 | LM2903DQ | INVERTER |
| | | |
| Q 2 | 2SC2785 | H. SW |
| 3 | 2SC2785 | 2XV. PULSE GEN |
| 4 | DTC124ES | 50/60 SW |
| 5 | 2SC2785 | 2XV SW |
| 6 | 2SC2785 | 2XV SW |
| 7 | 2SC2878 | H. SW |
| 8 | 2SC2785 | AMP |
| 9 | 2SK514 | H. CLAMP |
| 10 | DTC124ES | N/U SW |
| 11 | 2SC2878 | CLAMP |
| 12 | 2SC2878 | BUFFER |
| 13 | 2SK514 | 50/60 SW |
| 14 | DTC124ES | 50/60 SW |
| 15 | 2SC2785 | 50/60 SW |
| 16 | 2SK514 | 50/60 SW |
| 17 | DTC124ES | 50/60 SW |
| 18 | 2SC2785 | BUFFER |
| 19 | 2SC2878 | CLAMP |

| | | |
|---|---|---|
| Q 20 | 2SC2878 | BUFFER |
| 21 | 2SC2878 | H. SW |
| 22 | 2SC2785 | AMP |
| 23 | 2SC2785 | H. CLAMP |
| 24 | 2SK514 | H. CLAMP |
| 25 | 2SC2785 | H. SW |
| 26 | 2SC2785 | AMP |
| 27 | 2SC2785 | H. CLAMP |
| 28 | 2SK514 | H. CLAMP |
| 29 | 2SC2785 | H. SW |
| 30 | 2SC2785 | AMP |
| 31 | 2SC2785 | H. CLAMP |
| 32 | 2SK514 | H. CLAMP |
| 33 | 2SC2785 | N.T.C AMP |
| 34 | 2SA1175 | N.T.C AMP |
| 35 | 2SA1175 | BUFFER |
| 36 | 2SC2785 | BUFFER |
| 37 | DTC124ES | N/U SW |
| 38 | 2SA1175 | BUFFER |
| 40 | 2SC2785 | ADDER |
| 41 | 2SC2785 | ADDER |
| 43 | 2SC2785 | H,CLAMP |
| 44 | 2SA1175 | BUFFER |
| D 2 | RD15E-B3TN | LEVEL SHIFT |
| 3 | 1SS148 | PROTECTER |
| 4 | 1SS148 | PROTECTER |
| 5 | 1SS148 | DC STOPPER |
| 6 | RD7.5E-B3TN | +7.5V REG. |
| 7 | RD7.5E-B3TN | -7.5V REG. |
| 8 | RD6.8ESB2 | LIMITTER |



(1) 5.8Vp-p (V)



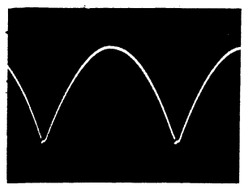
(5) 1.5Vp-p (V)



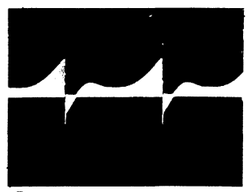
(8) 1.8Vp-p (V)



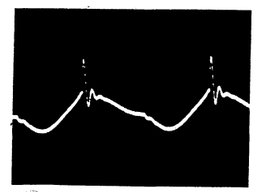
4.8Vp-p (H)



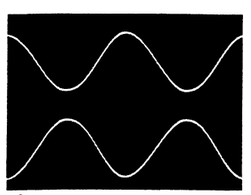
(2) 5.8Vp-p (V)



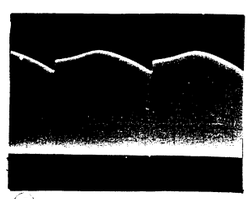
(6) 1.5Vp-p (V)



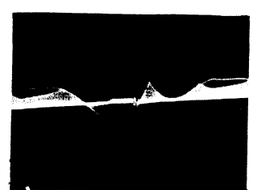
(9) 1Vp-p (V)



(3) 2.0Vp-p (V)
(4) 2.0Vp-p (V)



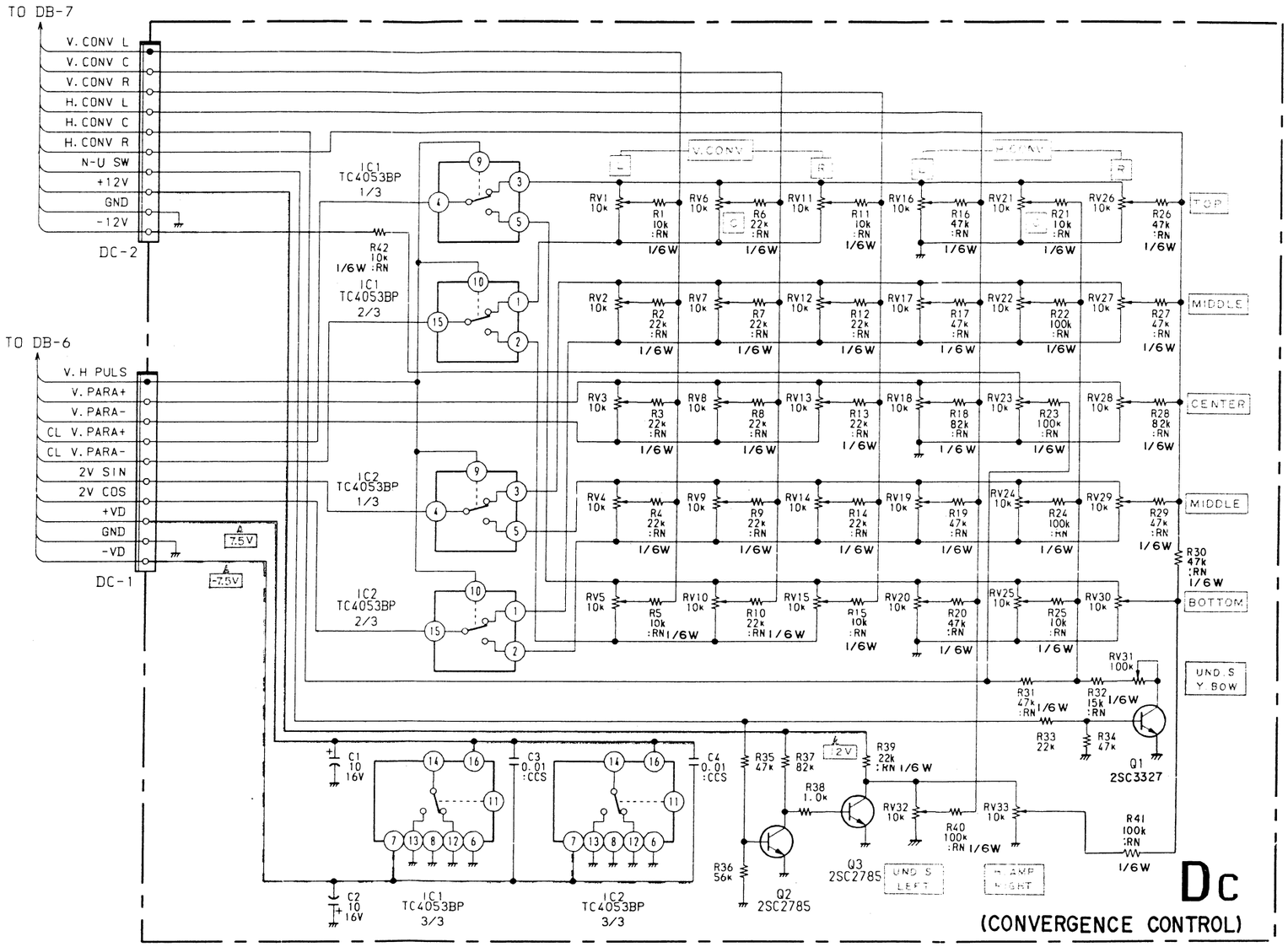
(7) 1.8Vp-p (V)

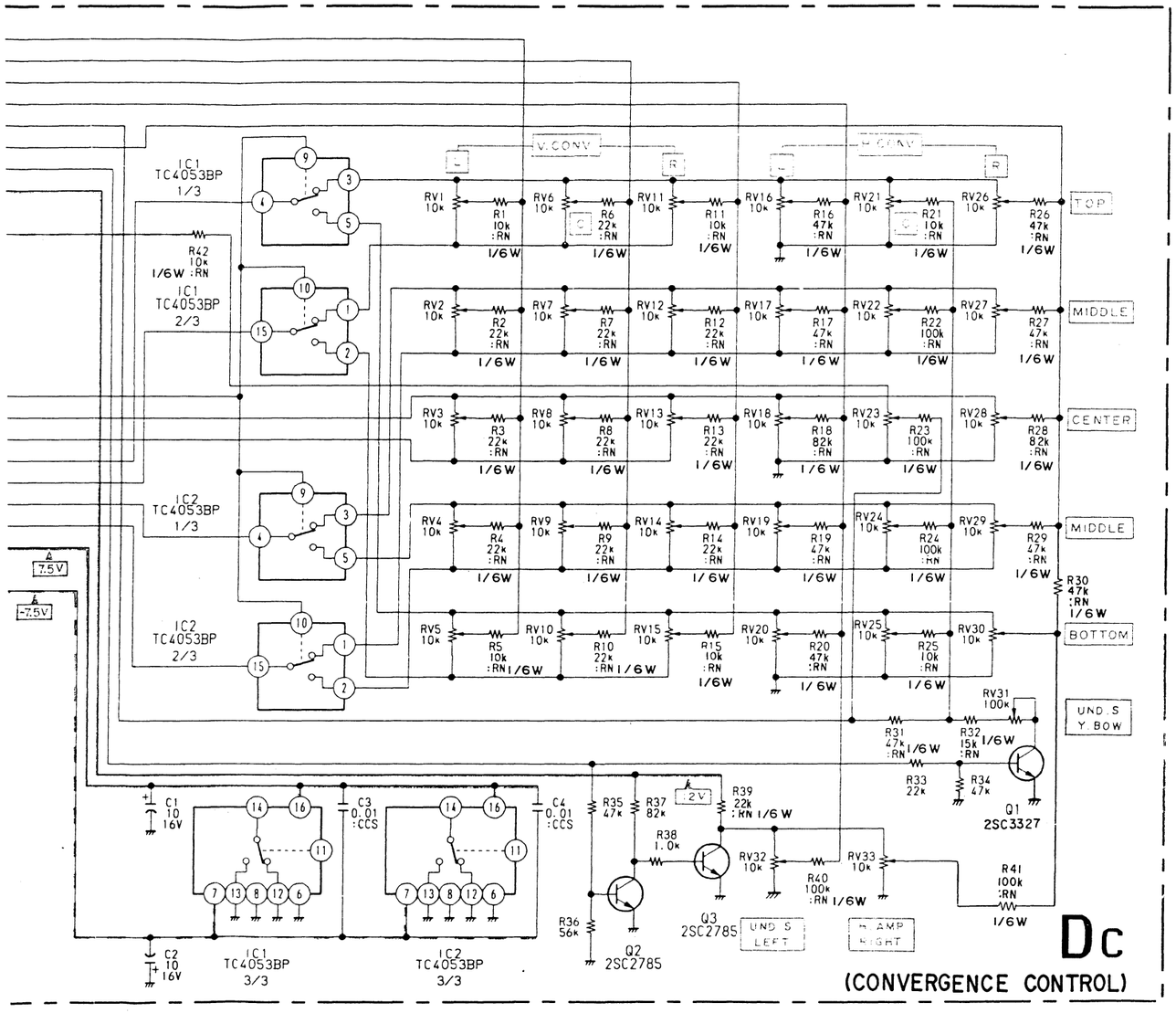


(10) 1.5Vp-p (V)

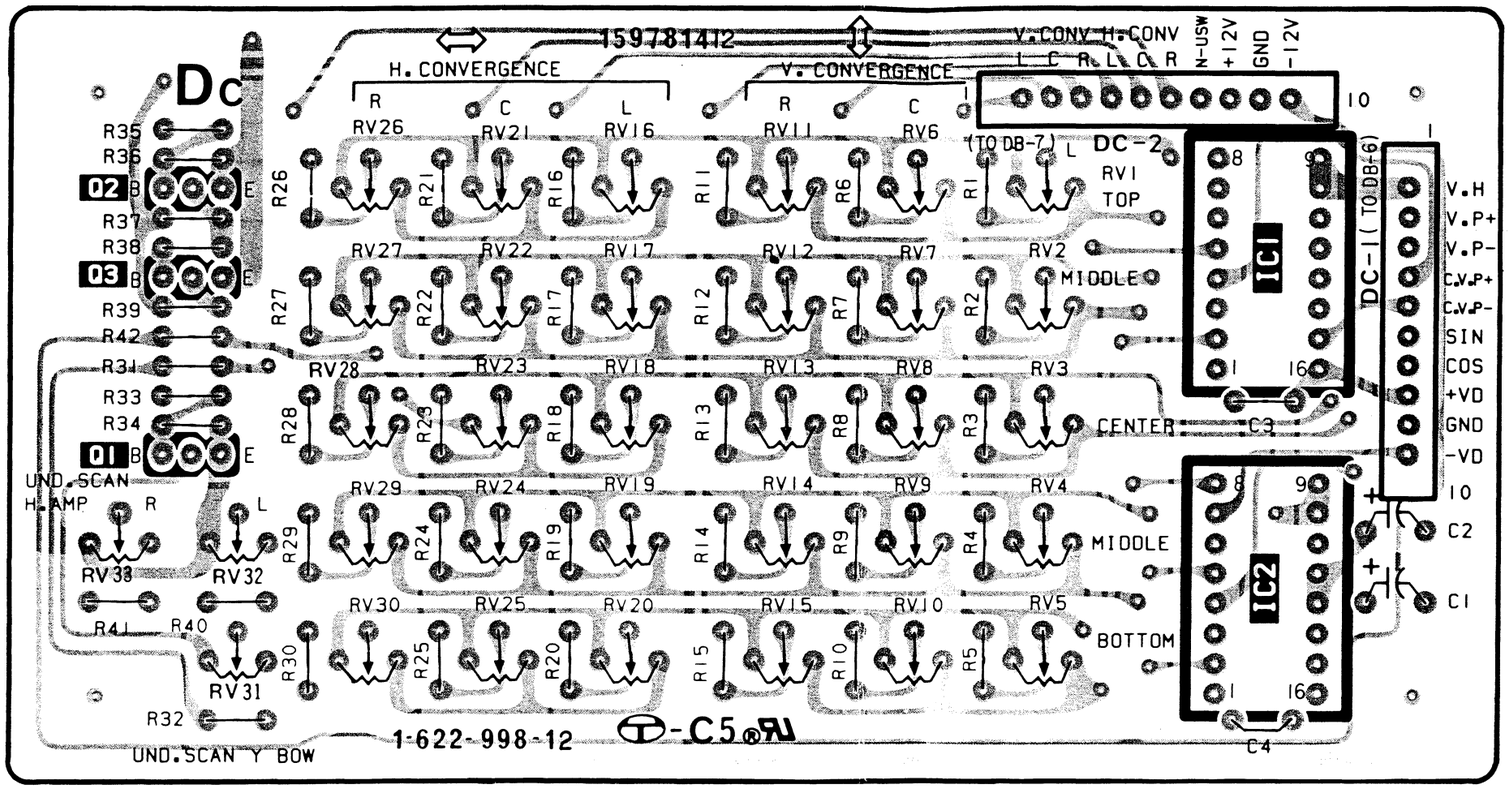
**DC board (CONVERGENCE CONTROL)**

| | | | |
|---|---|---|---|
| IC | 1 | TC4053BP | 1/2 HV.SW |
| | 2 | TC4053BP | 1/2 HV.SW |
| | | | |
| Q | 1 | 2SC3327 | UND.Y BOW |
| | 2 | 2SC2785 | UND.H.AMP |
| | 3 | 2SC2785 | UND.H.AMP |



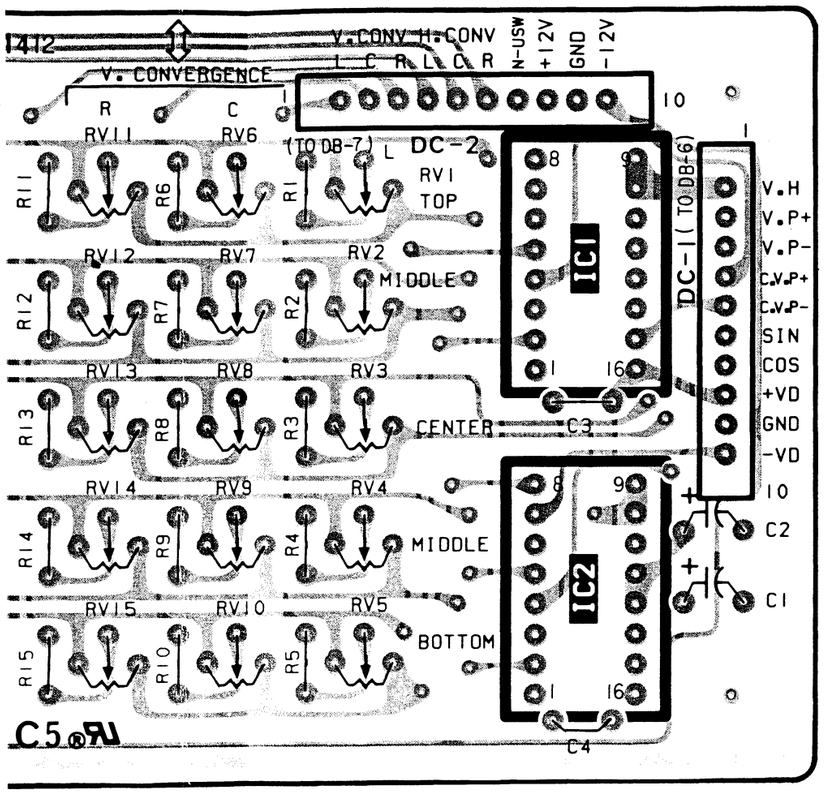

V.CONV
H.CONV
L
R
TOP
MIDDLE
CENTER
MIDDLE
BOTTOM
UND.S Y.BOW
IC1 TC4053BP 1/3
IC1 TC4053BP 2/3
IC2 TC4053BP 1/3
IC2 TC4053BP 2/3
IC1 TC4053BP 3/3
IC2 TC4053BP 3/3
R42 10k 1/6W :RN
7.5V
-7.5V
2V
C1 10 16V
C2 10 16V
C3 0.01 :CCS
C4 0.01 :CCS
R35 47k
R36 56k
R37 82k
R38 1.0k
R39 22k :RN 1/6W
R40 100k :RN 1/6W
R41 100k :RN 1/6W
Q1 2SC3327
Q2 2SC2785
Q3 2SC2785
UND.S LEFT
H.AMP RIGHT
Dc
(CONVERGENCE CONTROL)

DC board (CONVERGENCE CONTROL)




• : Conductor side pattern

• : Component side pattern

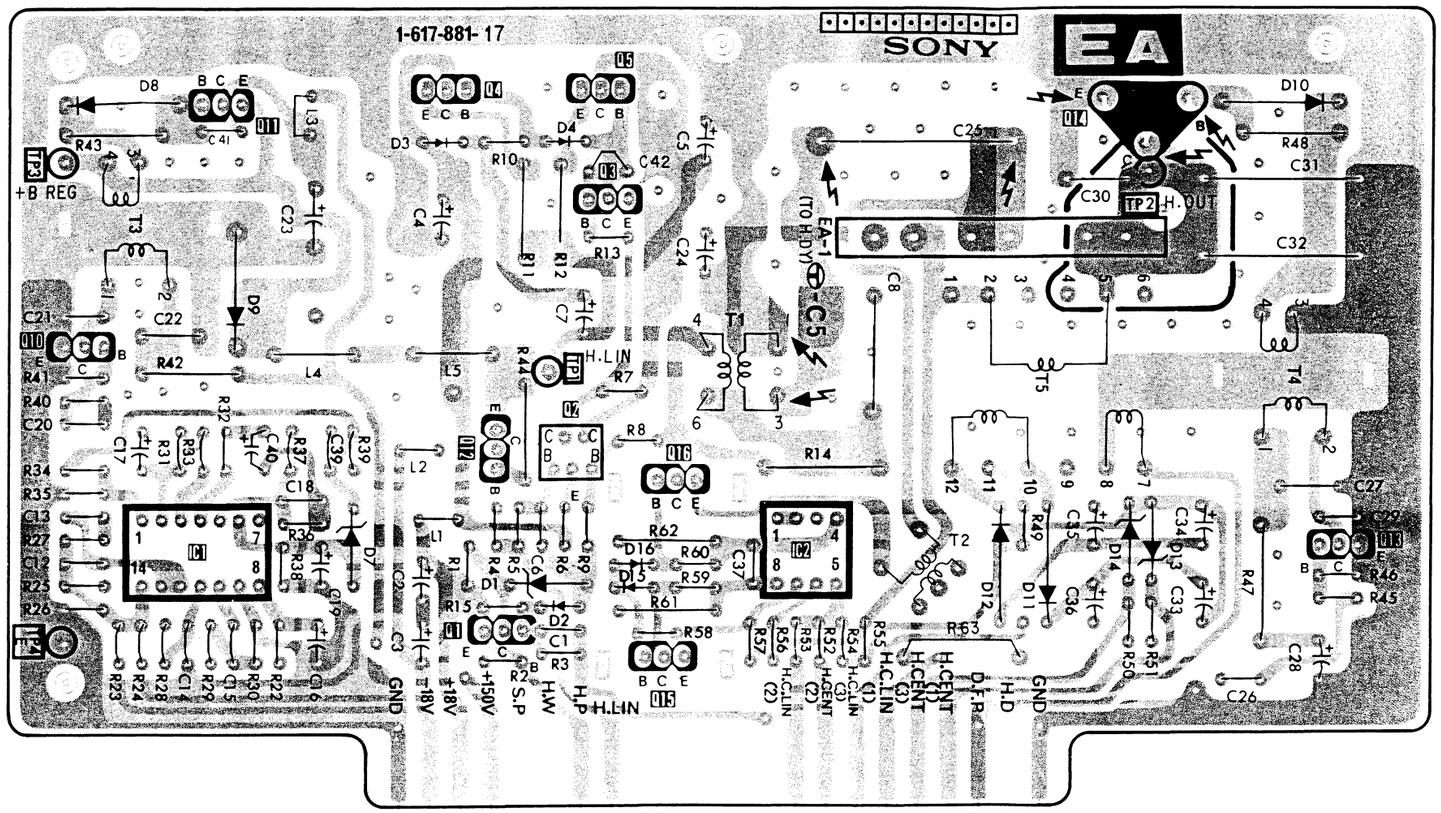



• : Conductor side pattern

• : Component side pattern

EA board (H OUT)

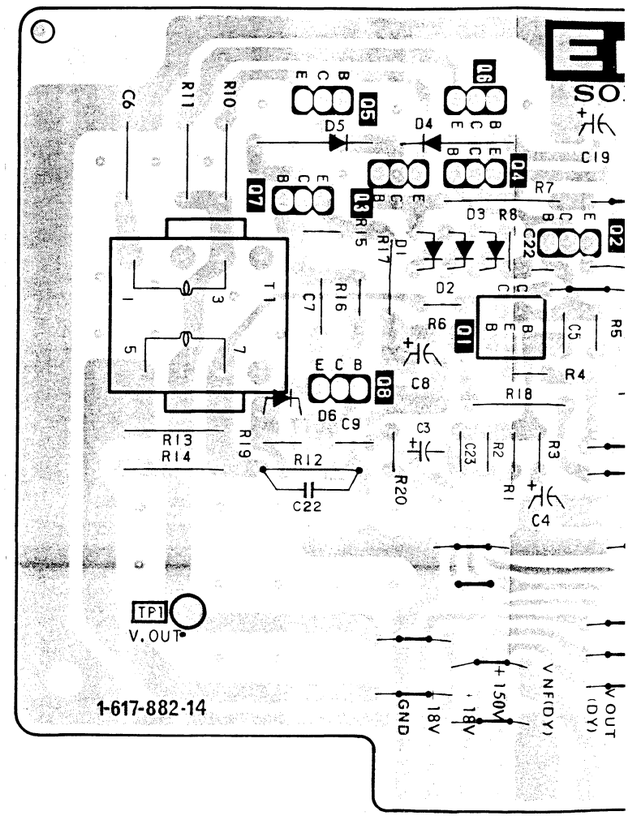
| | |
|---|---|
| IC | 1 2 |
| Q | 10 11 4 12 1 2 5 3 16 15 14 13 |
| D | 8 9 7 3 4 1 2 16 15 12 11 14 13 10 |
| TP | TP3 TP4 TP1 TP2 |






EB board (V OUT)

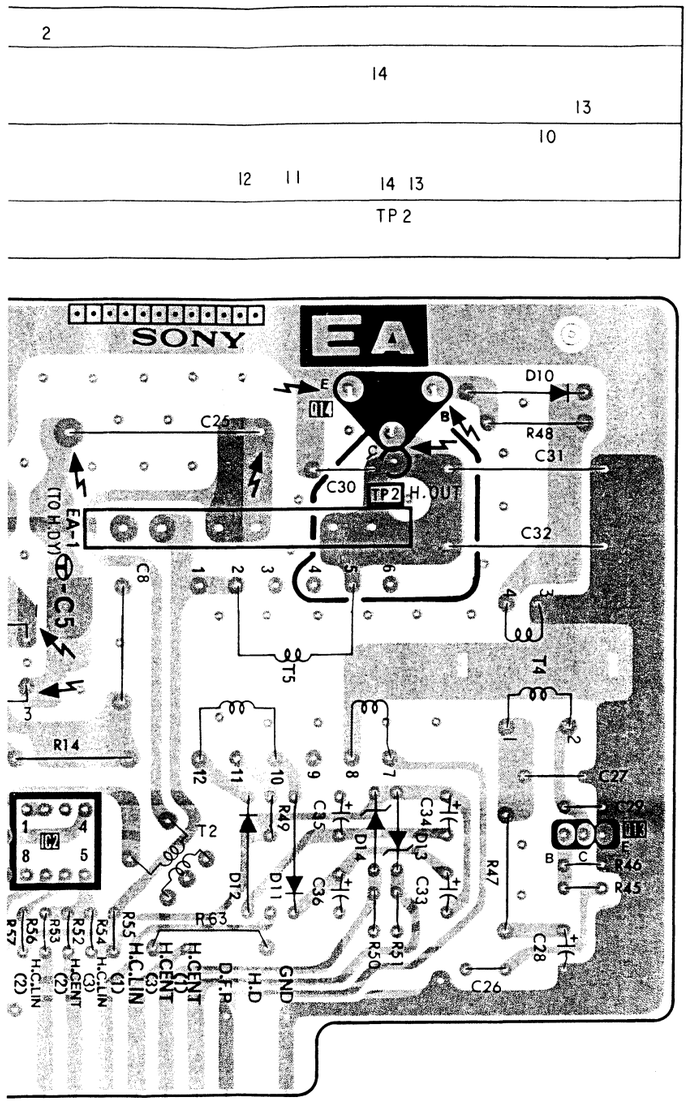
| | |
|---|---|
| Q | 5 7 8 3 6 4 1 2 |
| D | 5 6 4 1 2 3 |
| TP | TP1 |



**EB board (V OUT)**

| | |
|---|---|
| Q | 5 6 7 3 4 8 1 2 18 19 16 17 15 14 12 13 10 9 |
| D | 5 4 6 1 2 3 9 10 7 8 |
| TP | TP1 TP5 TP4 TP3 TP2 |



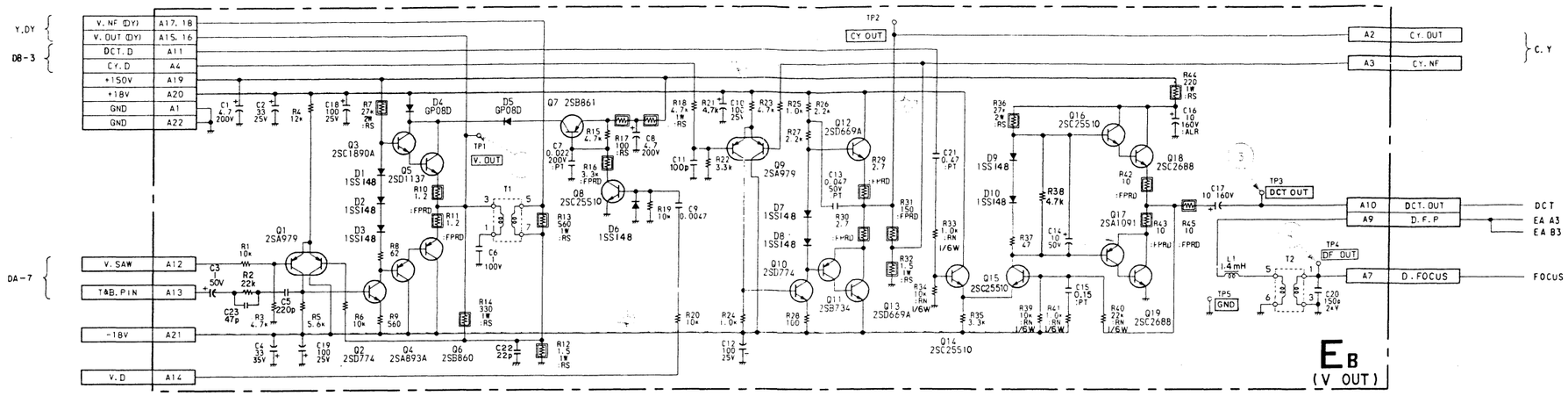



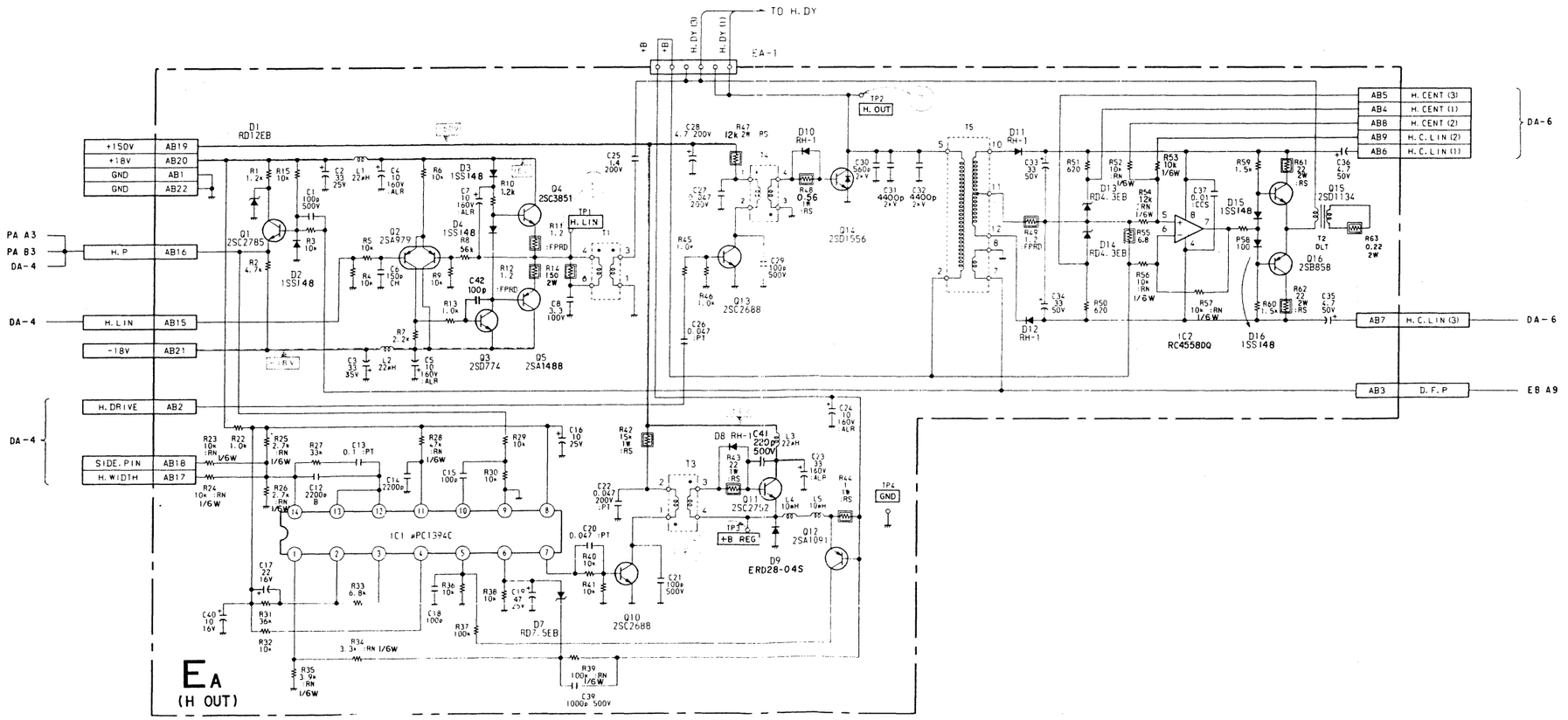


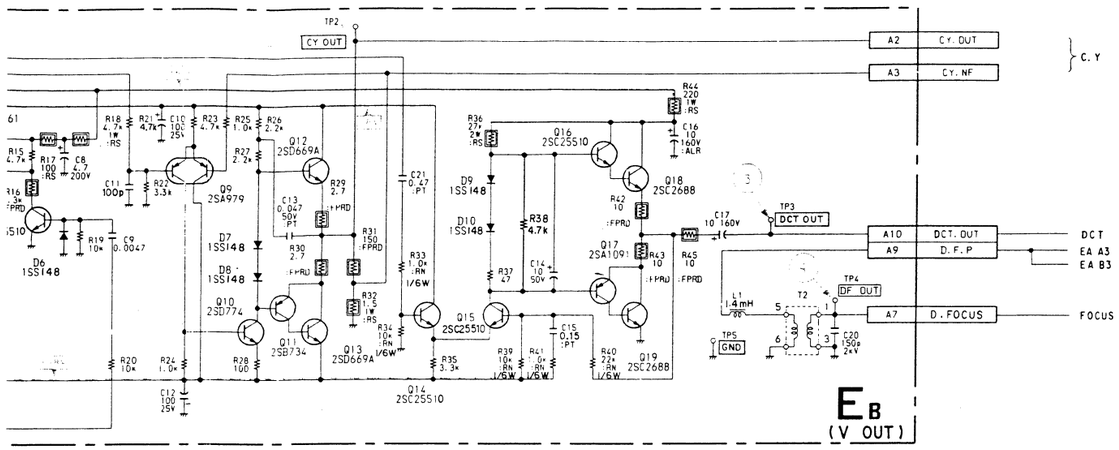


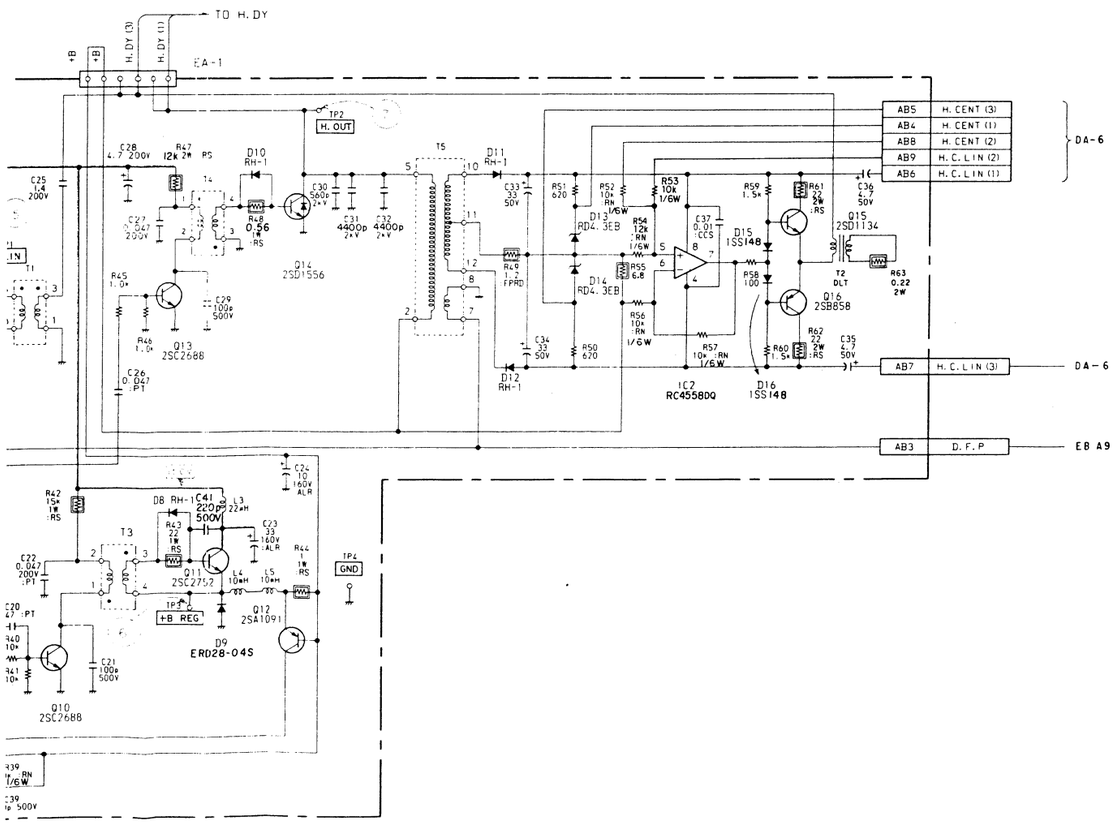

• : Conductor side pattern
• : Component side pattern

**EA board (H OUT)**
**EB board (V OUT)**







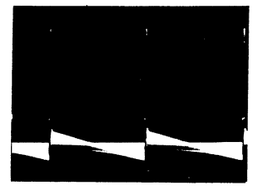



EA BOARD

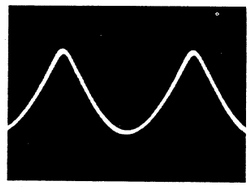
| | | |
|---|---|---|
| IC1 | uPC1394C | P.W.M CONTROL |
| 2 | RC4558DQ | H.CENT |
| | | |
| | | |
| Q1 | 2SC2785 | H.PULSE BUFFER |
| 2 | 2SA979 | H.LIN AMP |
| 3 | 2SD774 | H.LIN AMP |
| 4 | 2SC3851 | H.LIN AMP OUT |
| 5 | 2SA1488 | H.LIN AMP OUT |
| 10 | 2SC2688 | P.W.M DRIVE |
| 11 | 2SC2752 | P.W.M OUT |
| 12 | 2SA1091 | O.C.P |
| 13 | 2SC2688 | H.DRIVE |
| 14 | 2SD1556 | H.OUT |
| 15 | 2SD1134 | H.CENT |
| 16 | 2SB858 | H.CENT |
| | | |
| | | |
| D1 | RD12E-B | CLIPPER |
| 2 | 1SS148 | PROTECTOR |
| 3 | 1SS148 | BIAS |
| 4 | 1SS148 | BIAS |
| 7 | RD7.5E-B | PROTECTOR |
| 8 | RH-1 | P.W.M DRIVE |
| 9 | ERD28-04S | P.W.M SW |
| 10 | RH-1 | H.DRIVE |
| 11 | RH-1 | H.P.RECT. |
| 12 | RH-1 | H.P.RECT. |
| 13 | RD4.3E-B | +4.3V REG |
| 14 | RD4.3E-B | -4.3V REG |
| 15 | 1SS148 | BIAS |
| 16 | 1SS148 | BIAS |
| | | |
| | | |

EB BOARD

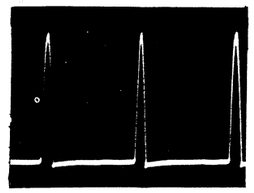
| | | |
|---|---|---|
| Q1 | 2SA979 | V.AMP |
| 2 | 2SD774 | V.AMP |
| 3 | 2SC1890A | V.AMP |
| 4 | 2SA893A | V.AMP |
| 5 | 2SD1137 | V.AMP OUT |
| 6 | 2SB860 | V.AMP OUT |
| 7 | 2SB861 | V.RETRACE SW |
| 8 | 2SC2551O | V.RETRACE SW |
| 9 | 2SA979 | CY.AMP |
| 10 | 2SD774 | CY.AMP |
| 11 | 2SB734 | CY.AMP |
| 12 | 2SD669A | CY.AMP OUT |
| 13 | 2SD669A | CY.AMP OUT |
| 14 | 2SC2551O | D.C.T AMP |
| 15 | 2SC2551O | D.C.T AMP |
| 16 | 2SC2551O | D.C.T AMP |
| 17 | 2SA1091 | D.C.T AMP |
| 18 | 2SC2688 | D.C.T AMP OUT |
| 19 | 2SC2688 | D.C.T AMP OUT |
| | | |
| | | |
| D1 | 1SS148 | BIAS |
| 2 | 1SS148 | BIAS |
| 3 | 1SS148 | BIAS |
| 4 | GP08D | DC.STOPPER |
| 5 | GP08D | DC.STOPPER |
| 6 | 1SS148 | PROTECTOR |
| 7 | 1SS148 | BIAS |
| 8 | 1SS148 | BIAS |
| 9 | 1SS148 | BIAS |
| 10 | 1SS148 | BIAS |



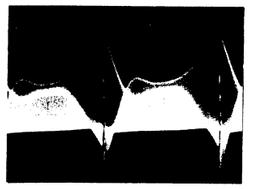
(1) 90Vp-p (V)



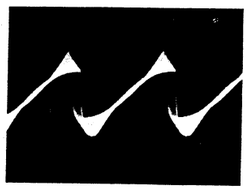
840Vp-p (H)



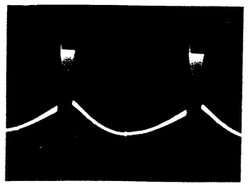
920Vp-p (H)



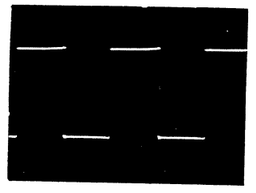
(2) 0.3Ap-p (V)



30Vp-p (H)

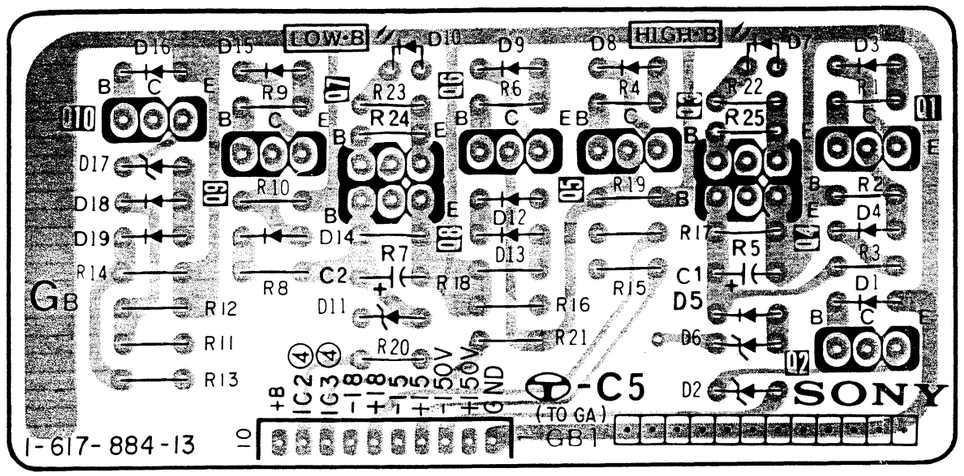


(3) 100Vp-p (H)



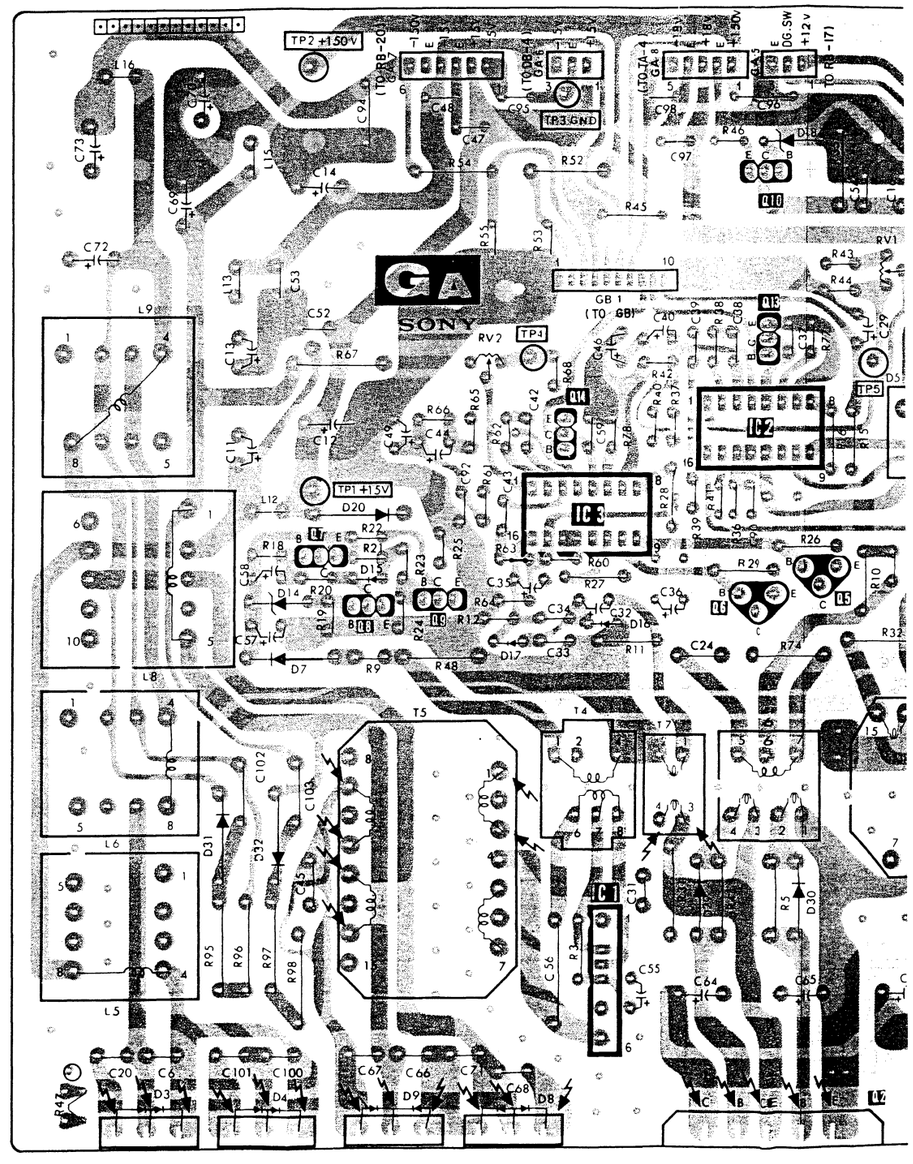
150Vp-p (H)

GB board (OVER VOLTAGE PROTECTOR)

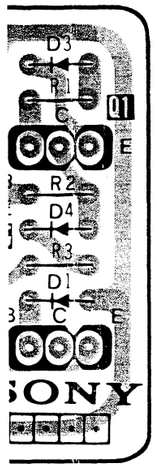



GA board (AC RECT, DC REG)

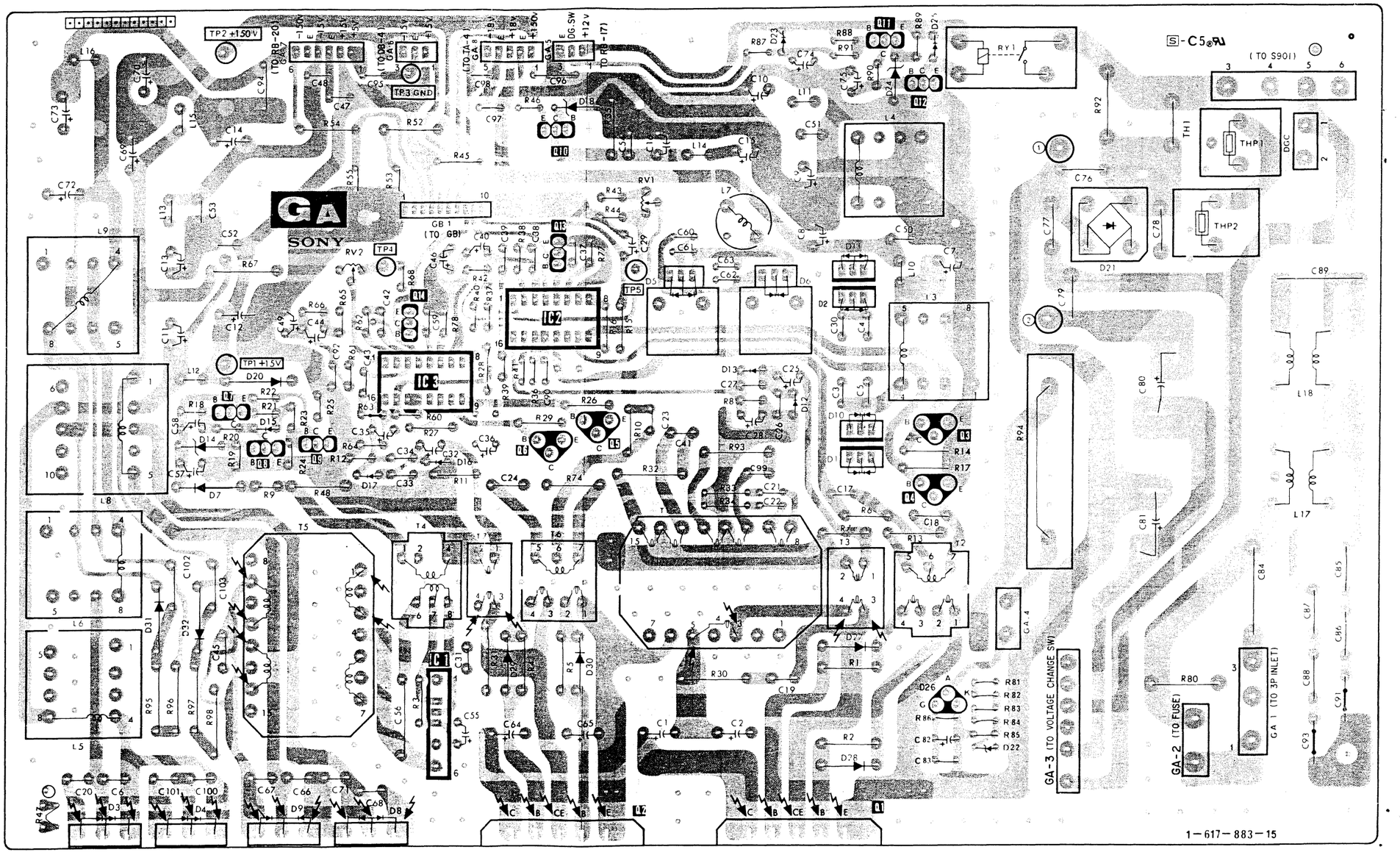
| IC | Q | D | ADJ·TP |
|---|---|---|---|
| | | 23 25 | |
| | 11 | | TP2 |
| | | 24 | TP3 |
| | 12 | | |
| | | 18 | |
| | 10 | | |
| | | | RV1 |
| | | 21 | |
| | 13 | 11 | RV2 TP4 |
| | | 5 6 | |
| | | 2 | |
| 2 | 14 | | |
| | | | TP1 |
| 3 | | 20 13 | |
| | 7 | 12 | |
| | 5 | 15 | |
| | 9 6 3 | 10 | |
| | 8 | 14 | |
| | | 16 1 | |
| | | 17 | |
| | | 7 | |
| | | 31,32 | |
| | | 29 27 | |
| | | 30 | |
| | | 26 | |
| 1 | | | |
| | | 22 | |
| | | 28 | |
| | | 3 4 | |
| | 2 1 | 9 8 | |



## GA board (AC RECT, DC REG)

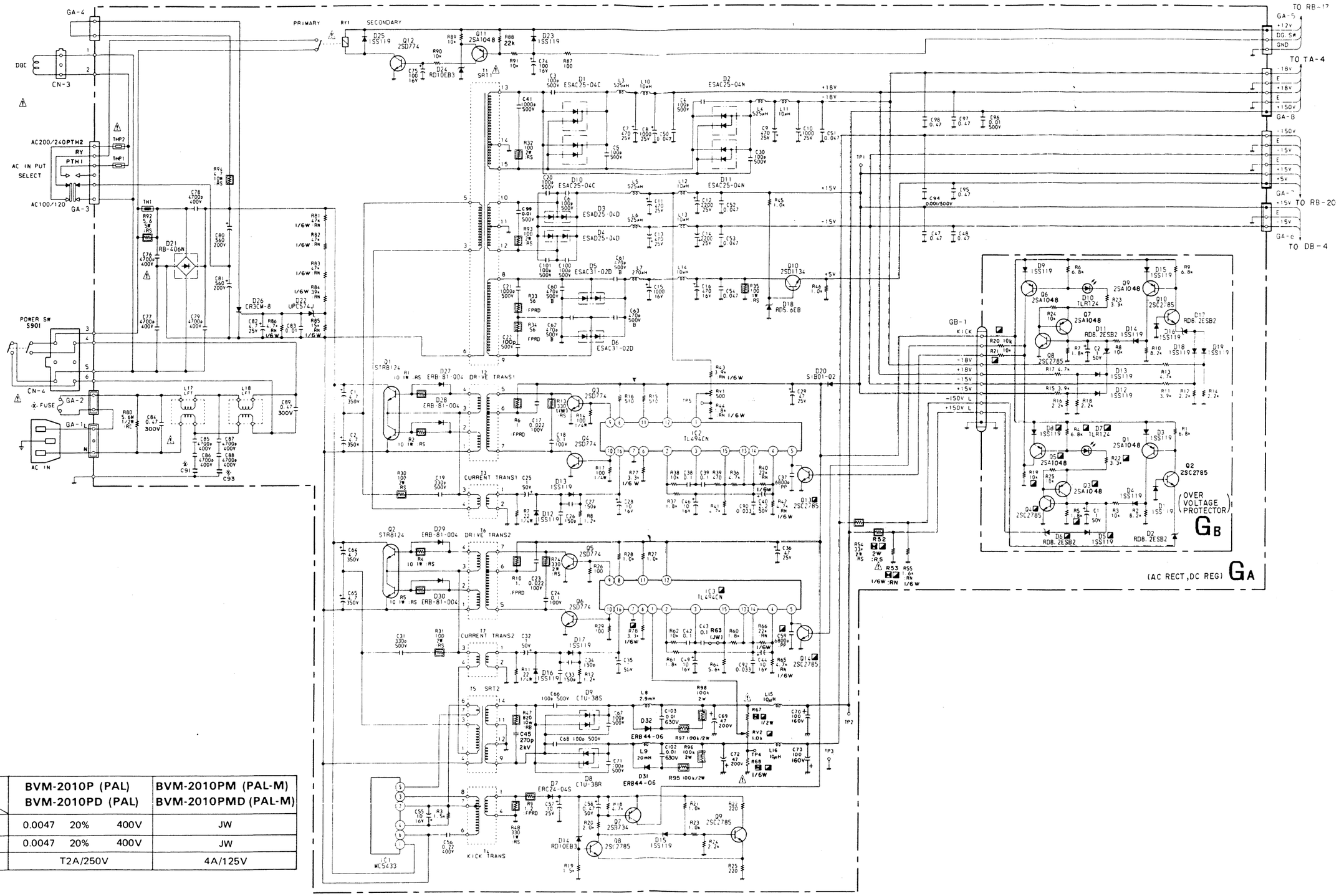


| IC | Q | D | ADJ · TP |
|---|---|---|---|
| | | 23 25 | |
| | 11 | | TP2 |
| | | 24 | TP3 |
| | 12 | | |
| | 18 | | |
| | 10 | | |
| | | | RV1 |
| | | 21 | |
| | 13 | 11 | RV2 TP4 |
| | | 5 6 | |
| | | 2 | |
| 2 | 14 | | |
| | | | TP1 |
| 3 | | 20 13 | |
| | 7 | | |
| | 5 | 15 12 | |
| | 9 6 3 | 10 | |
| | 8 | 14 | |
| | | 16 1 | |
| | | 17 | |
| | | 7 | |
| | | 31,32 | |
| | | 29 27 | |
| | | 30 | |
| | | 26 | |
| 1 | | | |
| | | 22 | |
| | | 28 | |
| | | 3 4 | |
| 2 1 | | 9 8 | |




• : Conductor side pattern
• : Component side pattern

**GA board (AC RECT, DC REG)**
**GB board (OVER VOLTAGE PROTECTOR)**

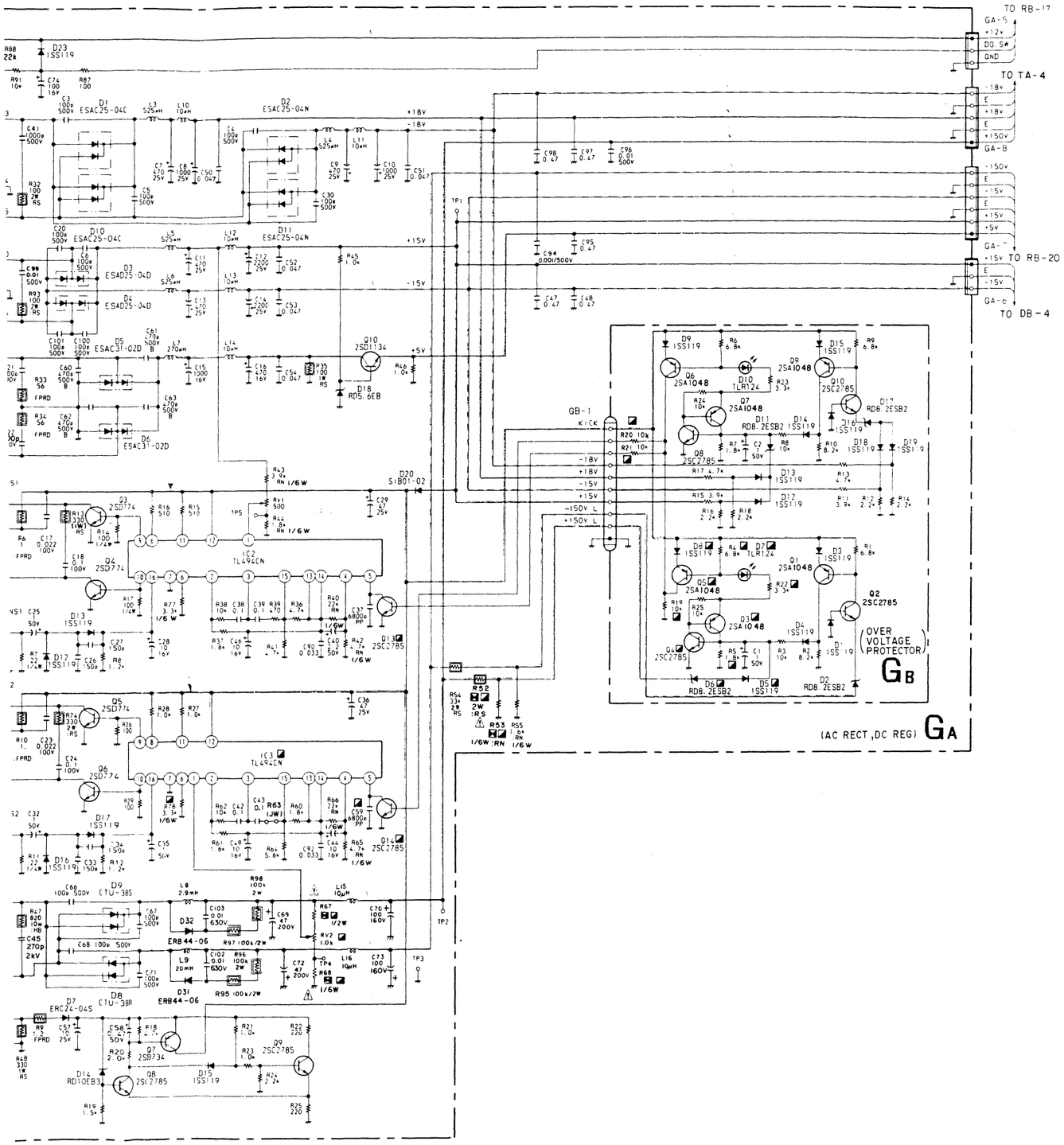



GA BOAR

| |
|---|
| IC1 |
| 2 |
| 3 |
| |
| |
| Q1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| |
| |
| D1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| 15 |
| 16 |
| 17 |
| 18 |
| 20 |
| 21 |
| 22 |
| 23 |
| 24 |
| 25 |
| 26 |
| 27 |
| 28 |
| 29 |
| 30 |
| 31 |
| 32 |

※NOTE

| Model / Ref | BVM-2010P (PAL) BVM-2010PD (PAL) | BVM-2010PM (PAL-M) BVM-2010PMD (PAL-M) |
|---|---|---|
| C91 | 0.0047 20% 400V | JW |
| C93 | 0.0047 20% 400V | JW |
| FUSE | T2A/250V | 4A/125V |



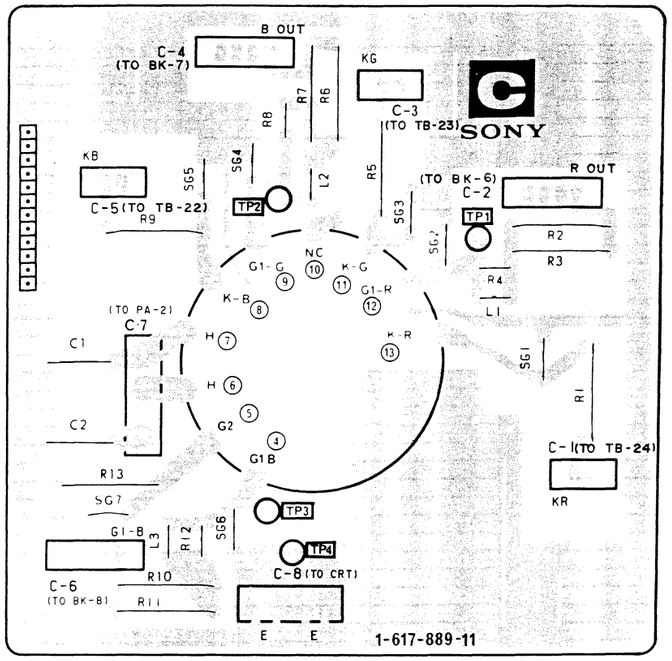

GA BOARD

| | | |
|---|---|---|
| IC1 | MC5433 | STARTER |
| 2 | TL494CN | DC REG |
| 3 | TL494CN | DC REG |
| | | |
| | | |
| Q1 | STR8124 | DC-DC CONV. |
| 2 | STR8124 | DC-DC CONV. |
| 3 | 2SD774 | CONV. DRIVE |
| 4 | 2SD774 | CONV. DRIVE |
| 5 | 2SD774 | CONV. DRIVE |
| 6 | 2SD774 | CONV. DRIVE |
| 7 | 2SB734 | SOFT. START |
| 8 | 2SC2785 | SOFT. START |
| 9 | 2SC2785 | SOFT. START |
| 10 | 2SD1134 | +5V REG. |
| 11 | 2SA1048 | D.G. CONTROL |
| 12 | 2SD774 | D.G. CONTROL |
| 13 | 2SC2785 | O.V.P SW |
| 14 | 2SC2785 | O.V.P SW |
| | | |
| | | |
| D1 | ESAC25-04C | +18V RECT |
| 2 | ESAC25-04N | -18V RECT |
| 3 | ESAD25-04D | +15V RECT |
| 4 | ESAD25-04D | -15V RECT |
| 5 | ESAC31-02D | +5V RECT |
| 6 | ESAC31-02D | -5V RECT |
| 7 | ERC24-045 | START. RECT |
| 8 | CTU-38R | -150V RECT |
| 9 | CTU-38S | +150V RECT |
| 10 | ESAC25-04C | +18V RECT |
| 11 | ESAC25-04N | -18V RECT |
| 12 | 1SS119 | O.C.P RECT |
| 13 | 1SS119 | O.C.P RECT |
| 14 | RD10EB3T | STARTER |
| 15 | 1SS119 | STARTER |
| 16 | 1SS119 | O.C.P RECT |
| 17 | 1SS119 | O.C.P RECT |
| 18 | RD5.6E-B2TN | +5V REG |
| 20 | SIB01-02 | DC. STOPPER |
| 21 | RB406N | AC RECT |
| 22 | uPC574J | O.V.P |
| 23 | 1SS119 | DISCHARGE |
| 24 | RD10EB3T | +10V REG |
| 25 | 1SS119 | SW PROTECT |
| 26 | CR3CM-8 | O.V.P |
| 27 | ERB81-004 | CONV. DRIVE |
| 28 | ERB81-004 | CONV. DRIVE |
| 29 | ERB81-004 | CONV. DRIVE |
| 30 | ERB81-004 | CONV. DRIVE |
| 31 | ERB44-06 | |
| 32 | ERB44-06 | |

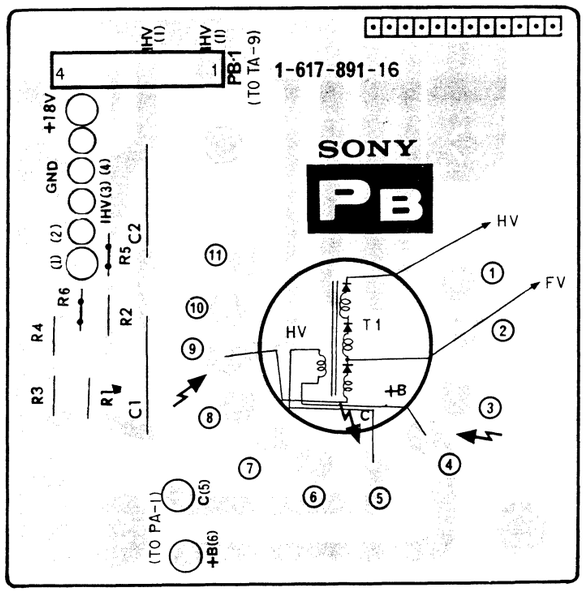
GB BOARD

| | | |
|---|---|---|
| Q1 | 2SA1048 | O.V.P (-150V) |
| 2 | 2SC2785 | O.V.P (-150V) |
| 3 | 2SA1048 | O.V.P (+150V) |
| 4 | 2SC2785 | O.V.P (+150V) |
| 5 | 2SA1048 | O.V.P (+150V) |
| 6 | 2SA1048 | O.V.P ($^{+15}_{+18}$V) |
| 7 | 2SA1048 | O.V.P ($^{+15}_{+18}$V) |
| 8 | 2SC2785 | O.V.P ($^{+15}_{+18}$V) |
| 9 | 2SA1048 | O.V.P ($^{-15}_{-18}$V) |
| 10 | 2SC2785 | O.V.P ($^{-15}_{-18}$V) |
| | | |
| | | |
| D1 | 1SS119 | PROTECTOR |
| 2 | RD8.2ES-T1B2 | REFERENCE |
| 3 | 1SS119 | PROTECTOR |
| 4 | 1SS119 | MIX. |
| 5 | 1SS119 | MIX. |
| 6 | RD8.2ES-T1B2 | REFERENCE |
| 7 | TLR124 | O.V.P INDICATE |
| 8 | 1SS119 | PROTECTOR |
| 9 | 1SS119 | PROTECTOR |
| 10 | TLR124 | O.V.P INDICATE |
| 11 | RD8.2ES-T1B2 | REFERENCE |
| 12 | 1SS119 | MIX. |
| 13 | 1SS119 | MIX. |
| 14 | 1SS119 | MIX. |
| 15 | 1SS119 | PROTECTOR |
| 16 | 1SS119 | PROTECTOR |
| 17 | RD8.2ES-T1B2 | REFERENCE |
| 18 | 1SS119 | MIX. |
| 19 | 1SS119 | MIX. |

C board (CRT SOCKET)




PB board (FBT)







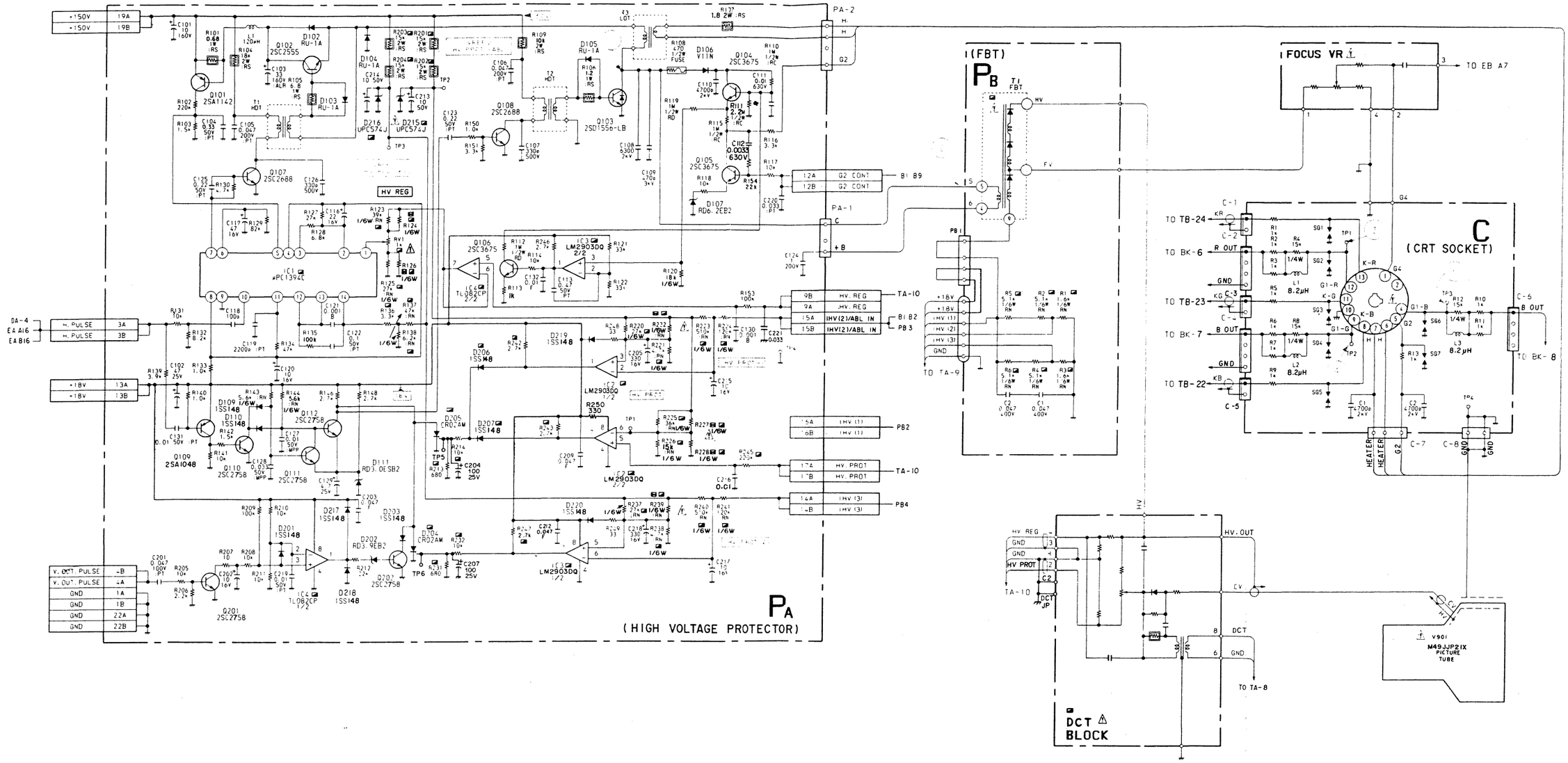

PA board (HIGH VOLTAGE PROTECTOR)

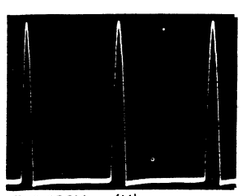
| | | |

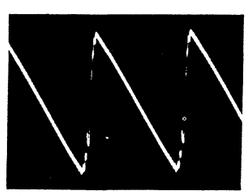
(GH VOLTAGE PROTECTOR)

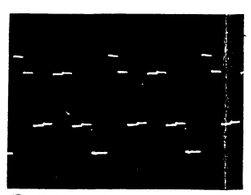
| | | |

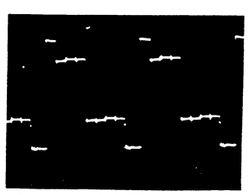
**C board (CRT SOCKET)**
**PA board (HIGH VOLTAGE PROTECTOR)**
**PB board (FBT)**

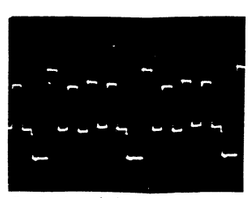


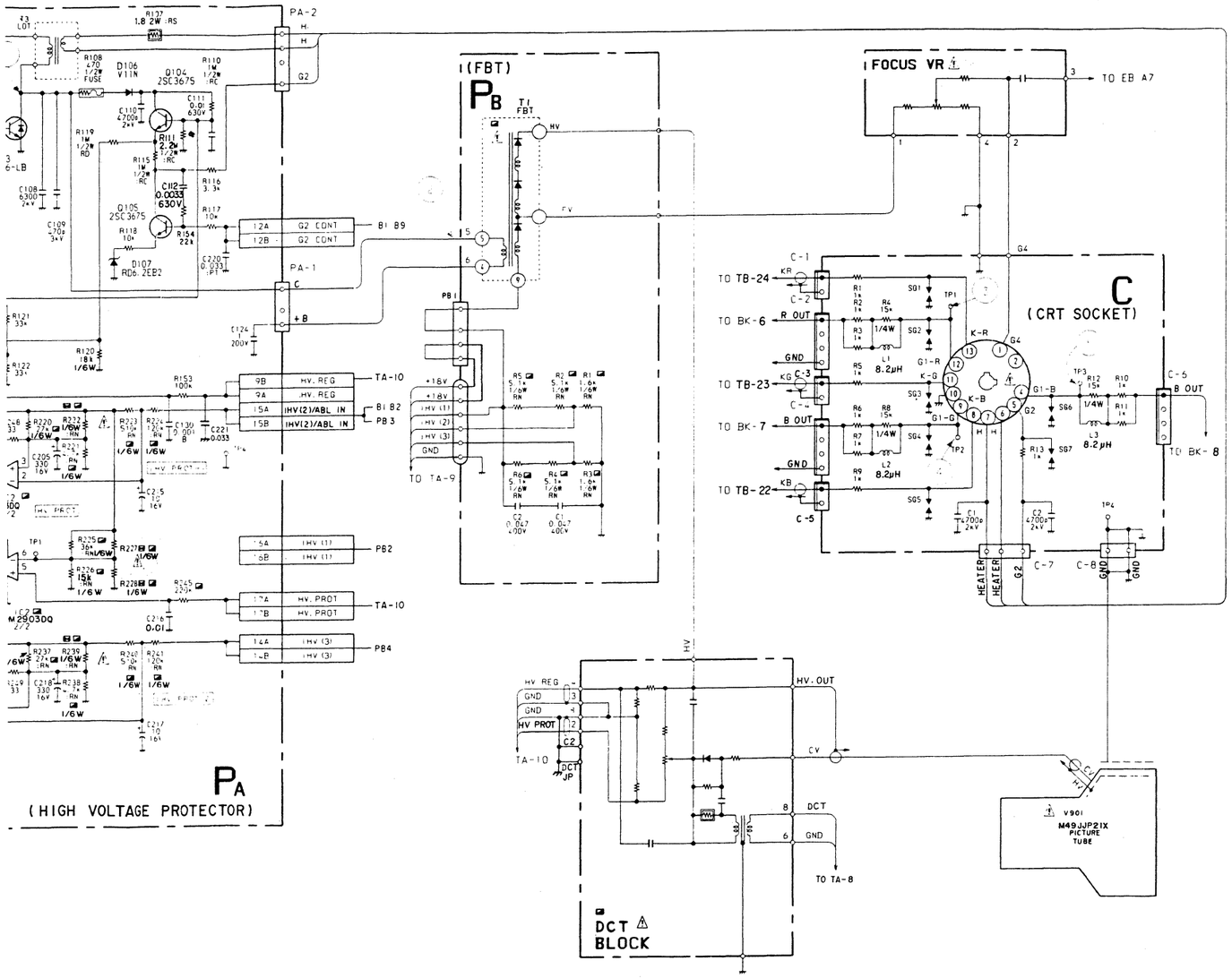


① 1.120Vp-p (H)

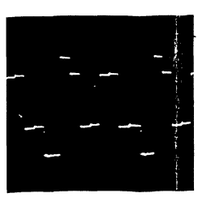

② 2.4Ap-p (H)


③ 64Vp-p (H)

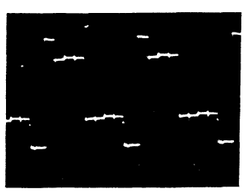

④ 68Vp-p (H)


⑤ 61Vp-p (H)

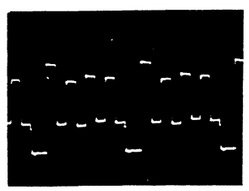


Vp-p (H)



④ 68Vp-p (H)



⑤ 61Vp-p (H)

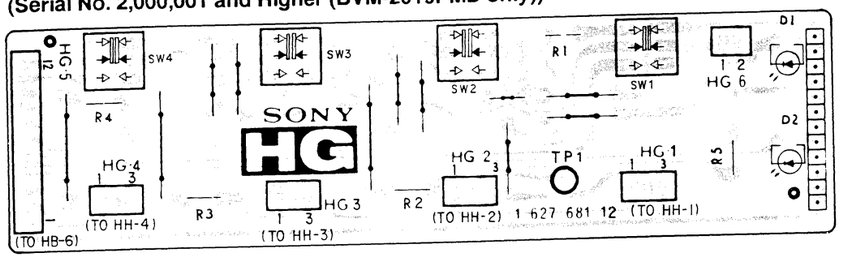
**HG board (CONTROL PANEL 2)**

**(Serial No. 2,001,081 and Higher (BVM-2010P only))**

**(Serial No. 2,000,004 and Higher (BVM-2010PM only))**

**(Serial No. 2,000,042 and Higher (BVM-2010PD only))**

**(Serial No. 2,000,001 and Higher (BVM-2010PMD only))**



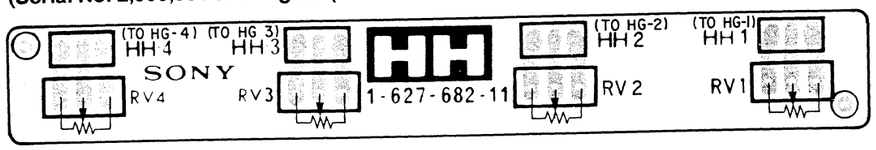

**HH board (CONTROL PANEL 1)**

**(Serial No. 2,001,081 and Higher (BVM-2010P only))**

**(Serial No. 2,000,004 and Higher (BVM-2010PM only))**

**(Serial No. 2,000,042 and Higher (BVM-2010PD only))**

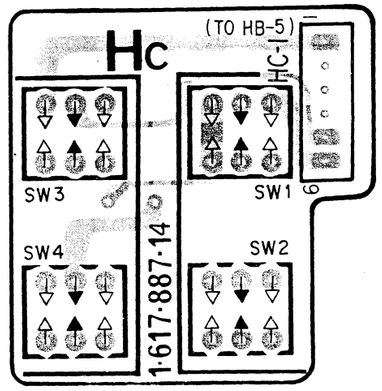
**(Serial No. 2,000,001 and Higher (BVM-2010PMD only))**



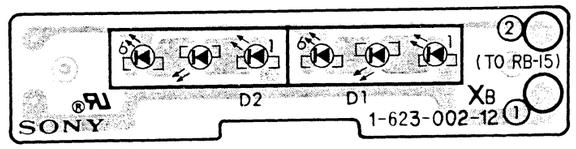




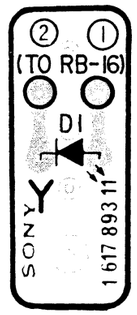

**HC board (INPUT SELECT)**




**XB board (TALLY)**




**Y board (POWER LED)**

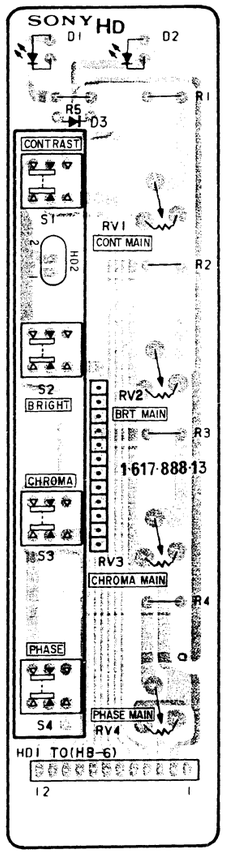



**HD board (MANUAL CONTROL)**

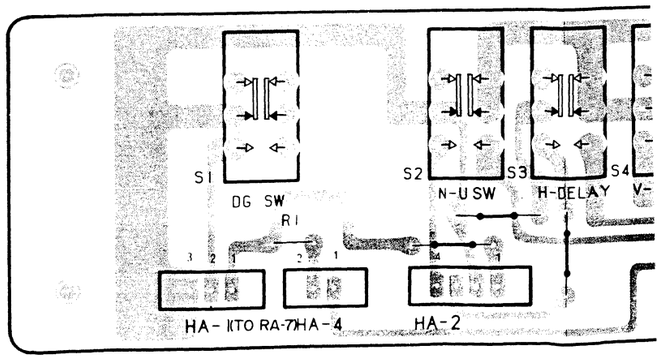
**(Serial No. Up to 2,001,080 (BVM-2010P only))**

**(Serial No. Up to 2,000,041 (BVM-2010PD only))**

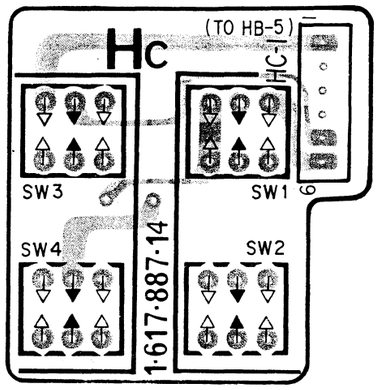
**(Serial No. Up to 2,000,003 (BVM-2010PM only))**



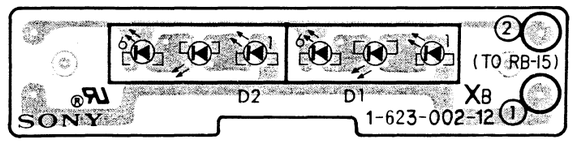

**HA board (LEFT CONTROL PANEL)**



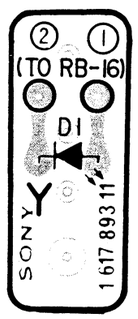
HC board (INPUT SELECT)



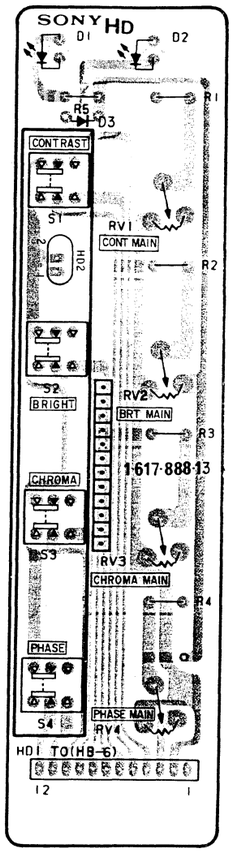

XB board (TALLY)



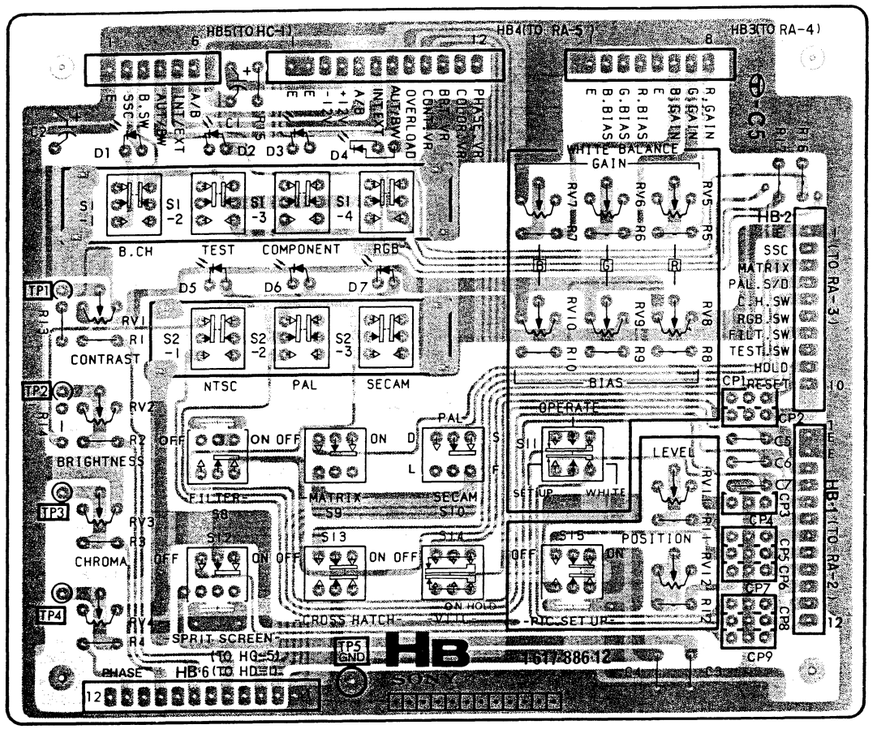

Y board (POWER LED)



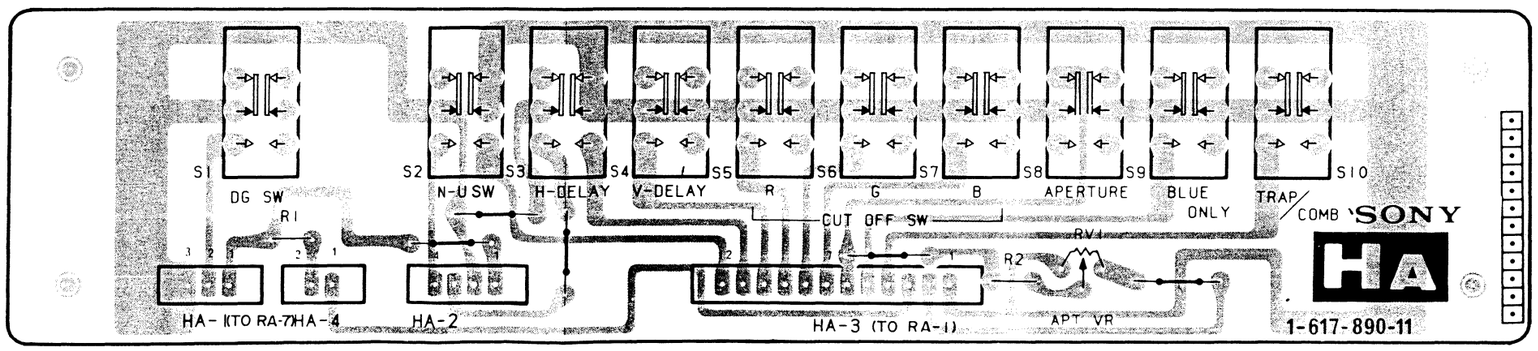

HD board (MANUAL CONTROL)
(Serial No. Up to 2,001,080 (BVM-2010P only))
(Serial No. Up to 2,000,041 (BVM-2010PD only))
(Serial No. Up to 2,000,003 (BVM-2010PM only))




HB board (SYSTEM SWITCH)

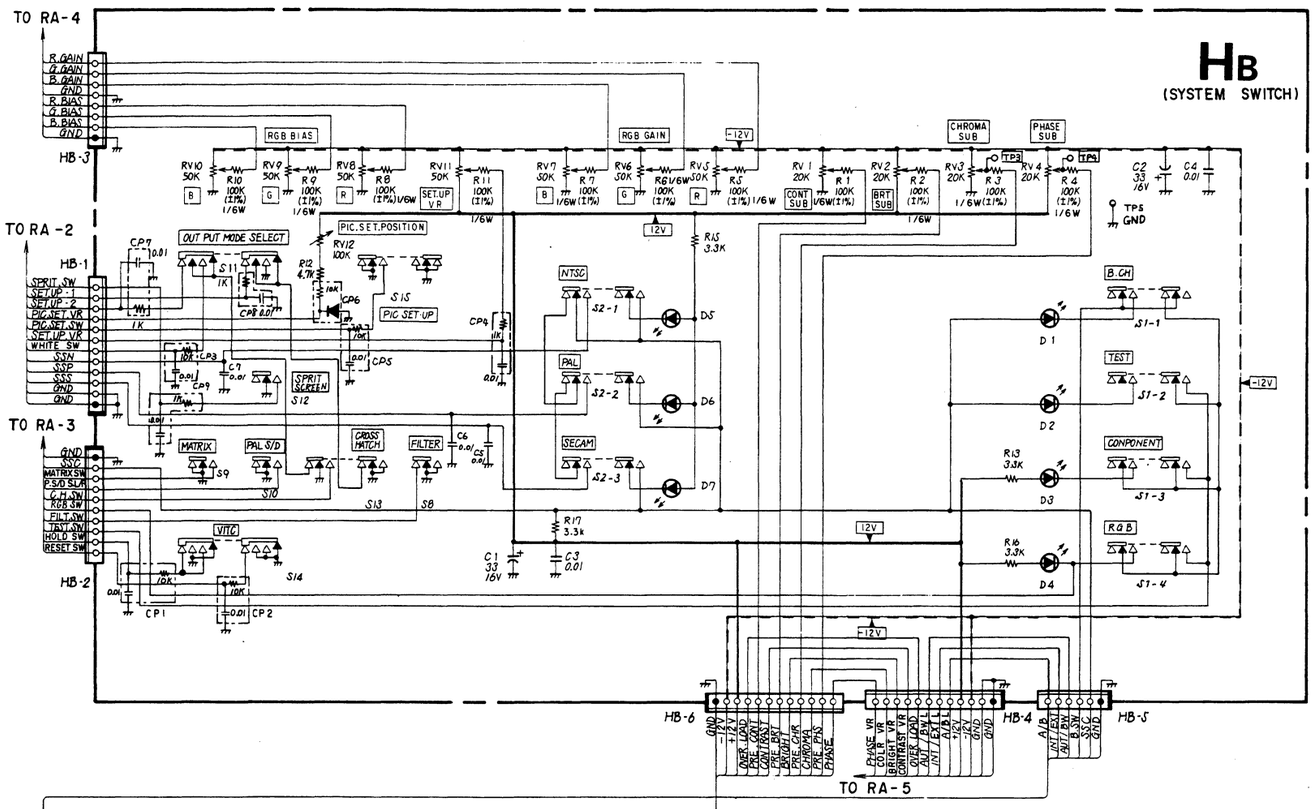


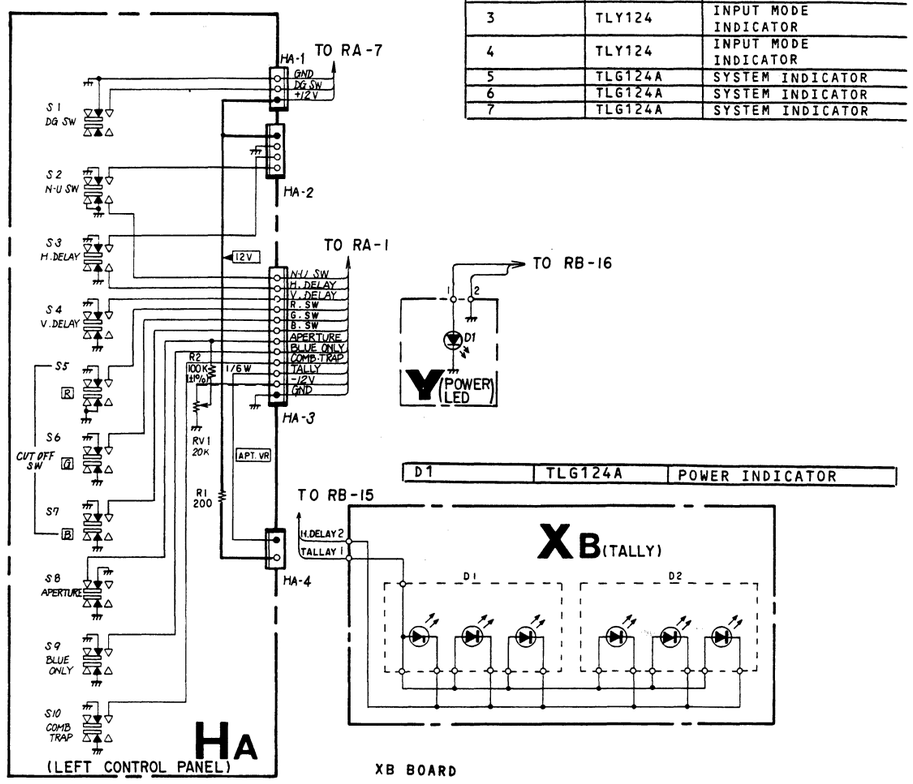

HA board (LEFT CONTROL PANEL)




• : Conductor side pattern
• : Component side pattern

**HA board (LEFT CONTROL PANEL), HB board (SYSTEM SWITCH), HC board (INPUT SELECT) , HG board (CONTROL PANEL 2)**
**HD board (MANUAL CONTROL), XB board (TALLY), Y board (POWER LED) , HH board (CONTROL PANEL 1)**



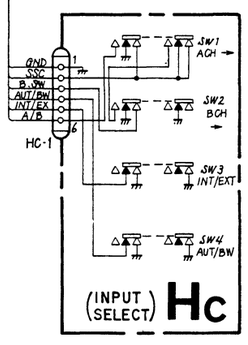

HB BOARD

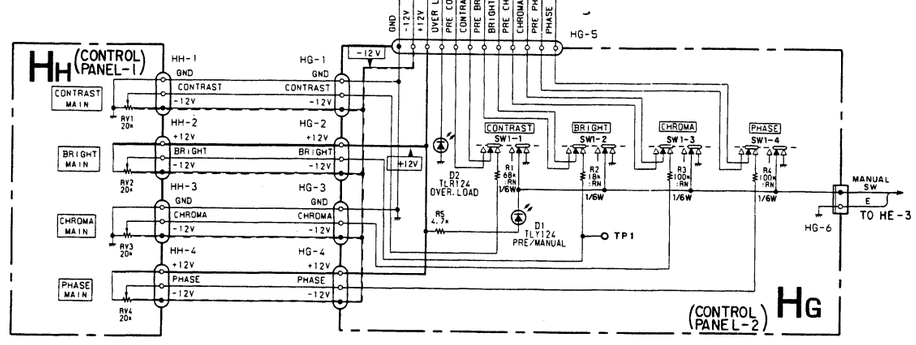
| | | |
|---|---|---|
| D1 | TLY124 | INPUT MODE INDICATOR |
| 2 | TLY124 | INPUT MODE INDICATOR |
| 3 | TLY124 | INPUT MODE INDICATOR |
| 4 | TLY124 | INPUT MODE INDICATOR |
| 5 | TLG124A | SYSTEM INDICATOR |
| 6 | TLG124A | SYSTEM INDICATOR |
| 7 | TLG124A | SYSTEM INDICATOR |

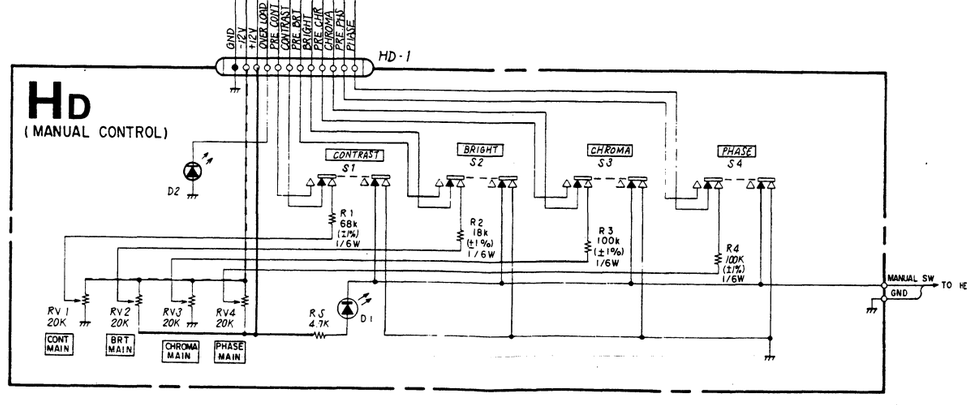
| | | |
|---|---|---|
| D1 | TLG124A | POWER INDICATOR |

XB BOARD

| | | |
|---|---|---|
| D1 | LT-9010H | TALLY LAMP |
| D2 | LT-9010H | TALLY LAMP |



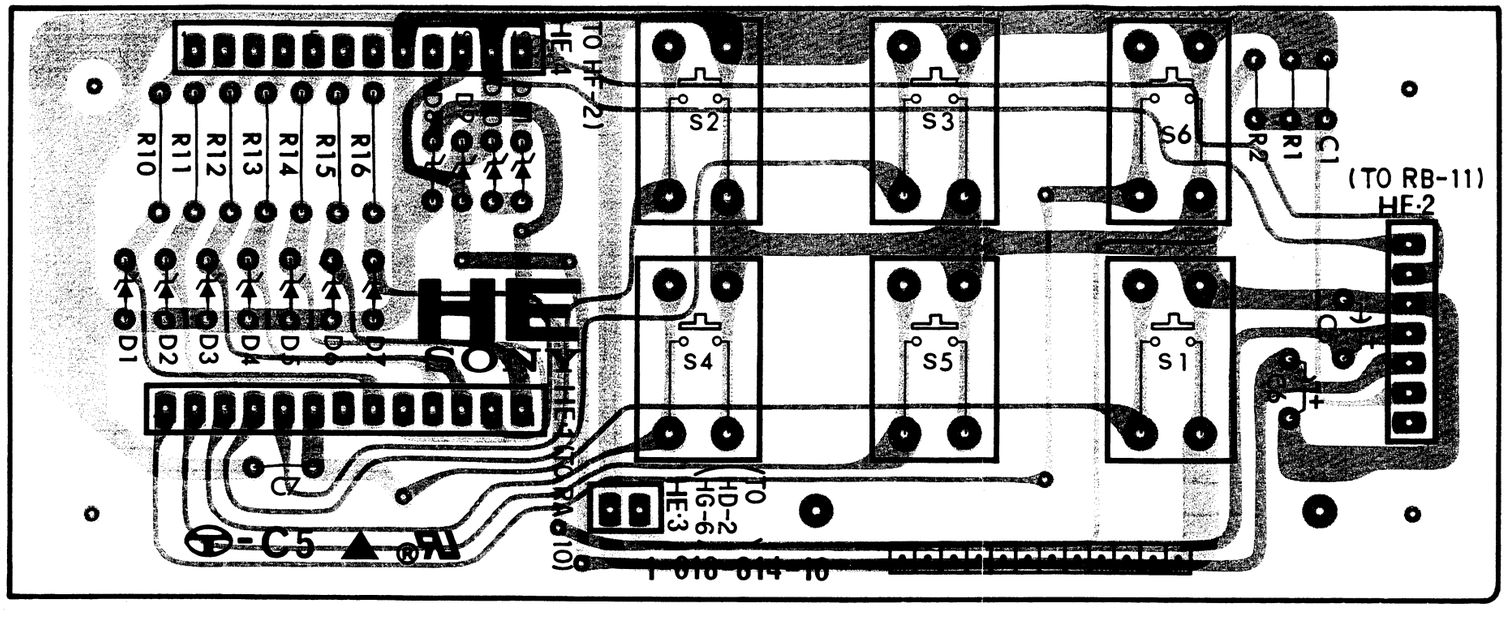

HD/HG BOARD

| | | |
|---|---|---|
| D1 | TLY124 | PRE/MANUAL INDICATOR |
| 2 | TLR124 | OVER LOAD INDICATOR |

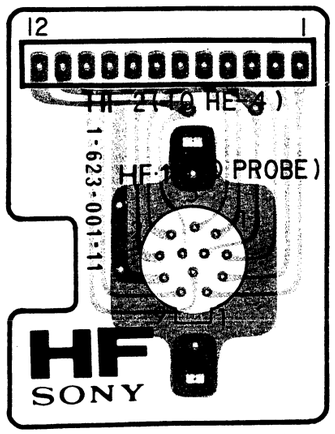
***HH & HG board**
**(Serial No. 2,001,081 and Higher (BVM-2010P only))**
**(Serial No. 2,000,004 and Higher (BVM-2010PM only))**
**(Serial No. 2,000,042 and Higher (BVM-2010PD only))**
**(Serial No. 2,000,001 and Higher (BVM-2010PMD only))**

***HD board**
**(Serial No. Up to 2,001,080 (BVM-2010P only))**
**(Serial No. Up to 2,000,041 (BVM-2010PD only))**
**(Serial No. Up to 2,000,003 (BVM-2010PM only))**

HE board (AUTO-SET-UP CONTROL)



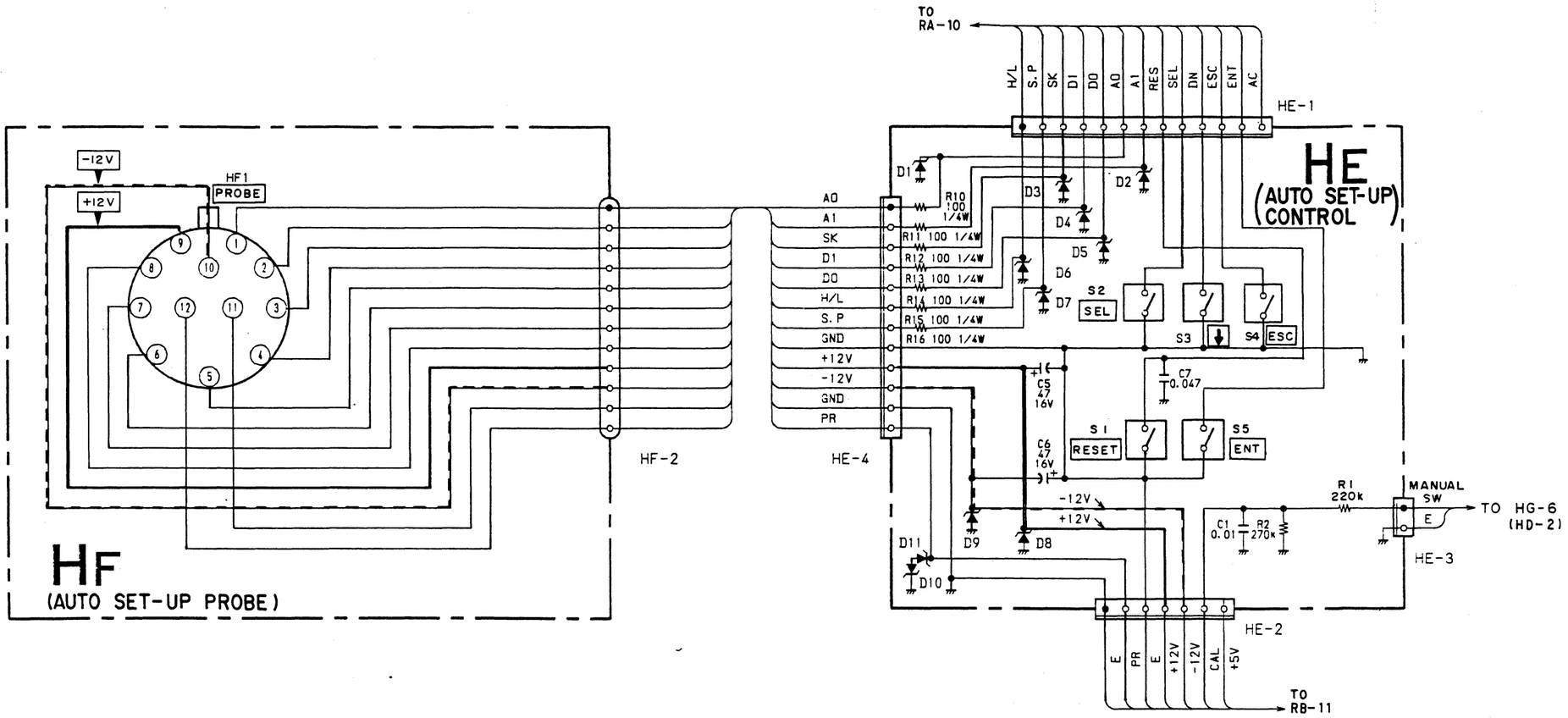

HF board (AUTO-SET-UP PROBE)






● : Conductor side pattern
● : Component side pattern

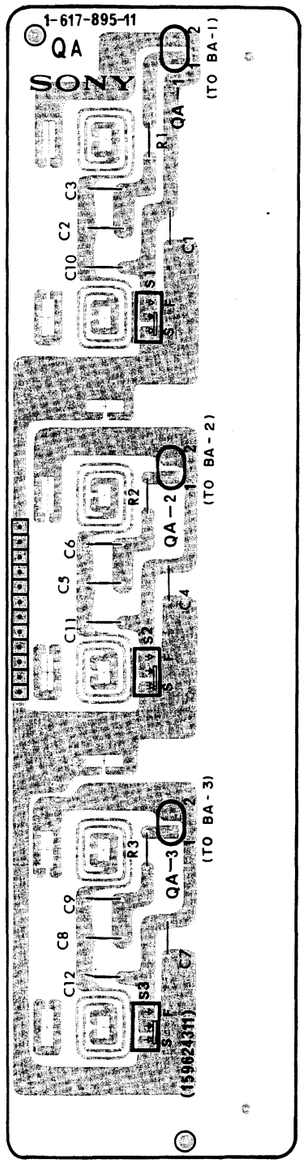
**HE board (AUTO-SET-UP CONTROL)**
**HF board (AUTO-SET-UP PROBE)**



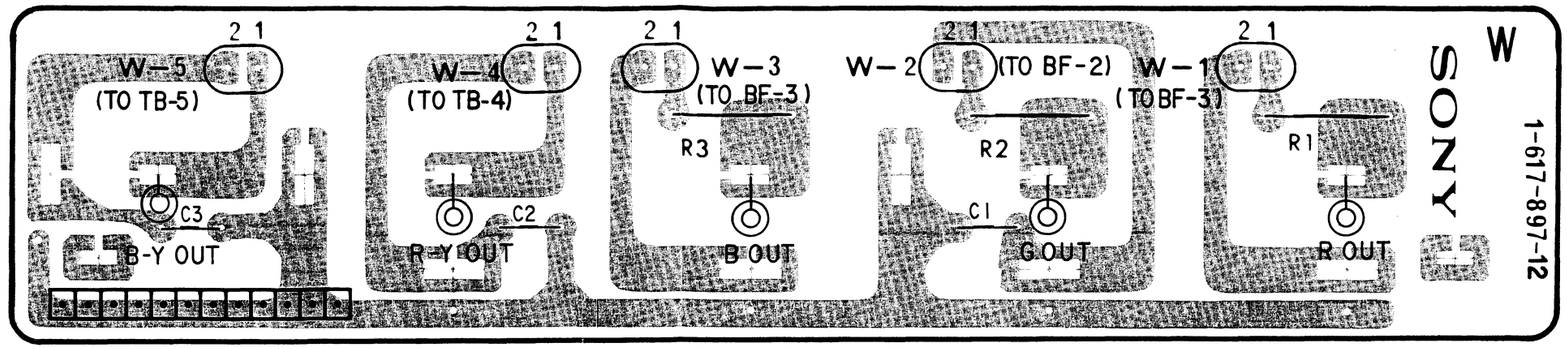

**HE board**

| | | | |
|---|---|---|---|
| D | 1 | RD5.6ES-B2 | PROTECTOR |
| | 2 | RD5.6ES-B2 | PROTECTOR |
| | 3 | RD5.6ES-B2 | PROTECTOR |
| | 4 | RD5.6ES-B2 | PROTECTOR |
| | 5 | RD5.6ES-B2 | PROTECTOR |
| | 6 | RD5.6ES-B2 | PROTECTOR |
| | 7 | RD5.6ES-B2 | PROTECTOR |
| | 8 | RD13ES-B2 | PROTECTOR |
| | 9 | RD13ES-B2 | PROTECTOR |
| | 10 | RD13ES-B2 | PROTECTOR |
| | 11 | RD13ES-B2 | PROTECTOR |

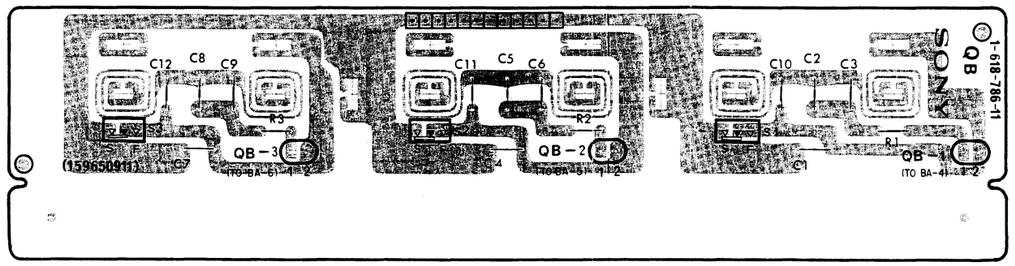
QA board (COMPOSITE VIDEO INPUT)



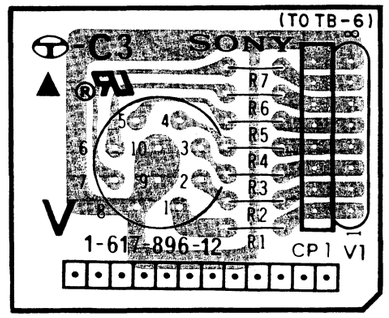

W board (RGB/COMPONENT & VECTOR)



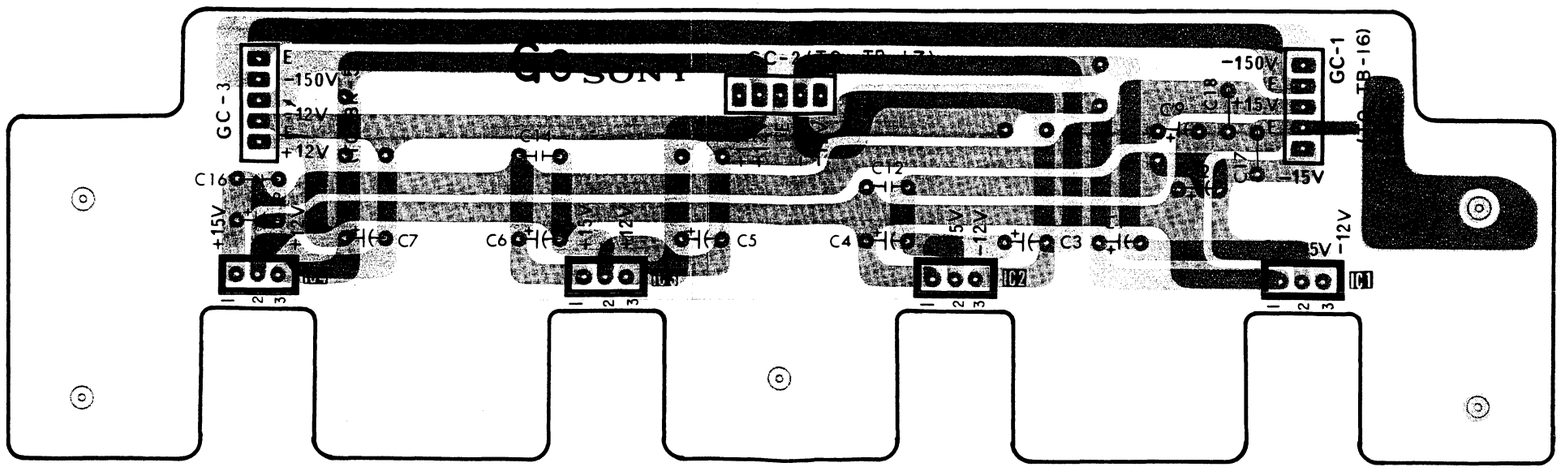

QB board (RGB/COMPONENT INPUT)




V board (REMOTE)

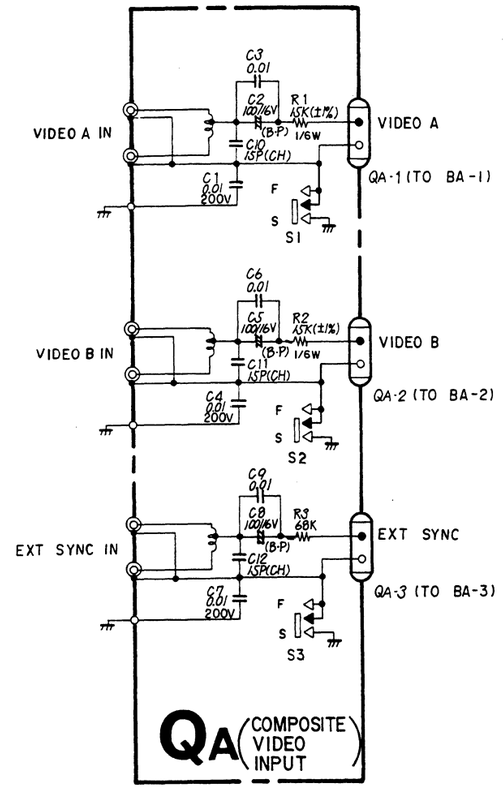


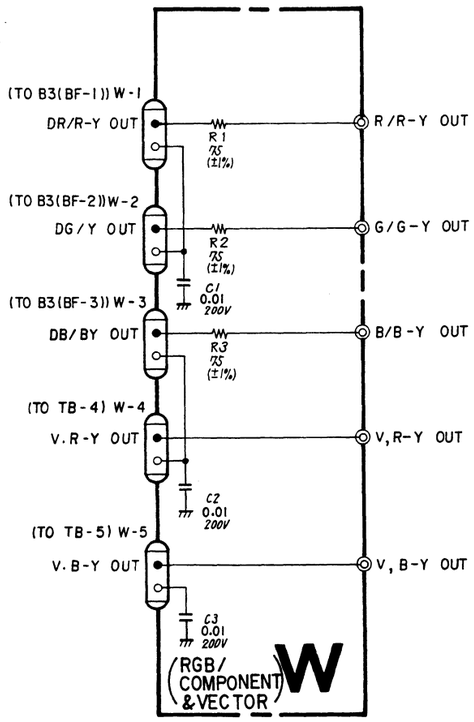

GC board (REG)

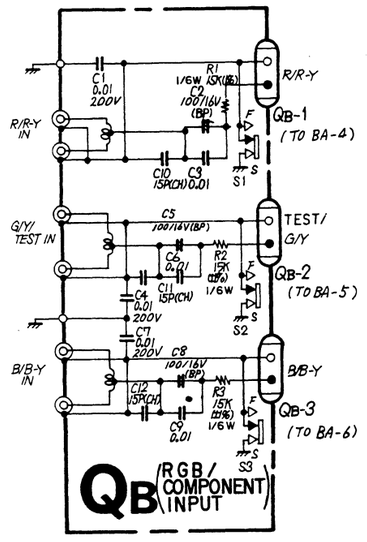


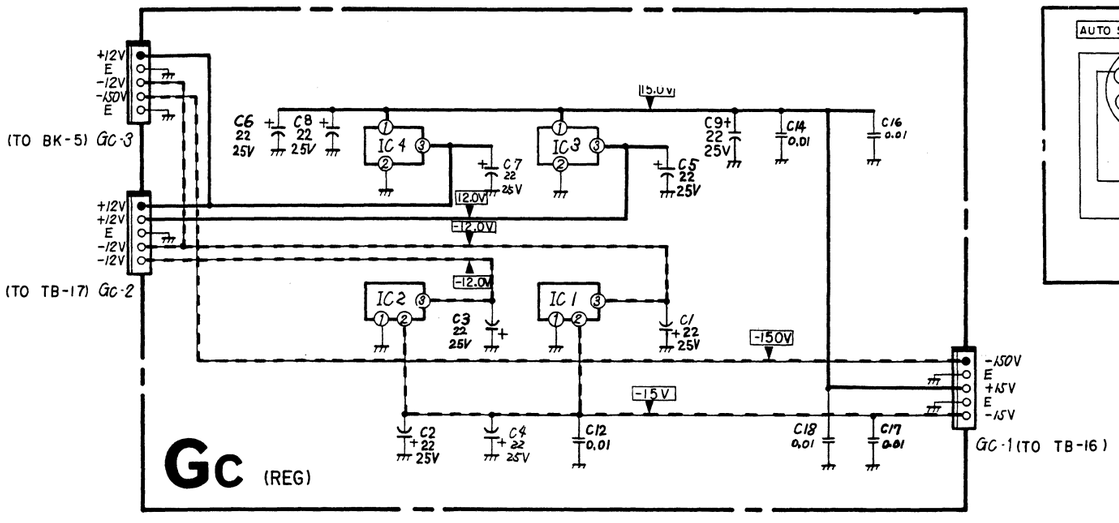

• : Conductor side pattern
• : Component side pattern

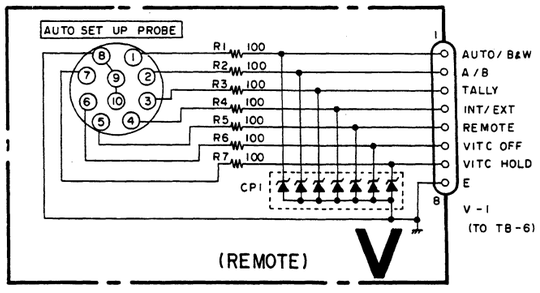
**GC board (REG) QA board (COMPOSITE VIDEO INPUT) QB board (RGB/COMPONENT INPUT)**
**V board (REMOTE) W board (RGB/COMPONENT & VECTOR)**



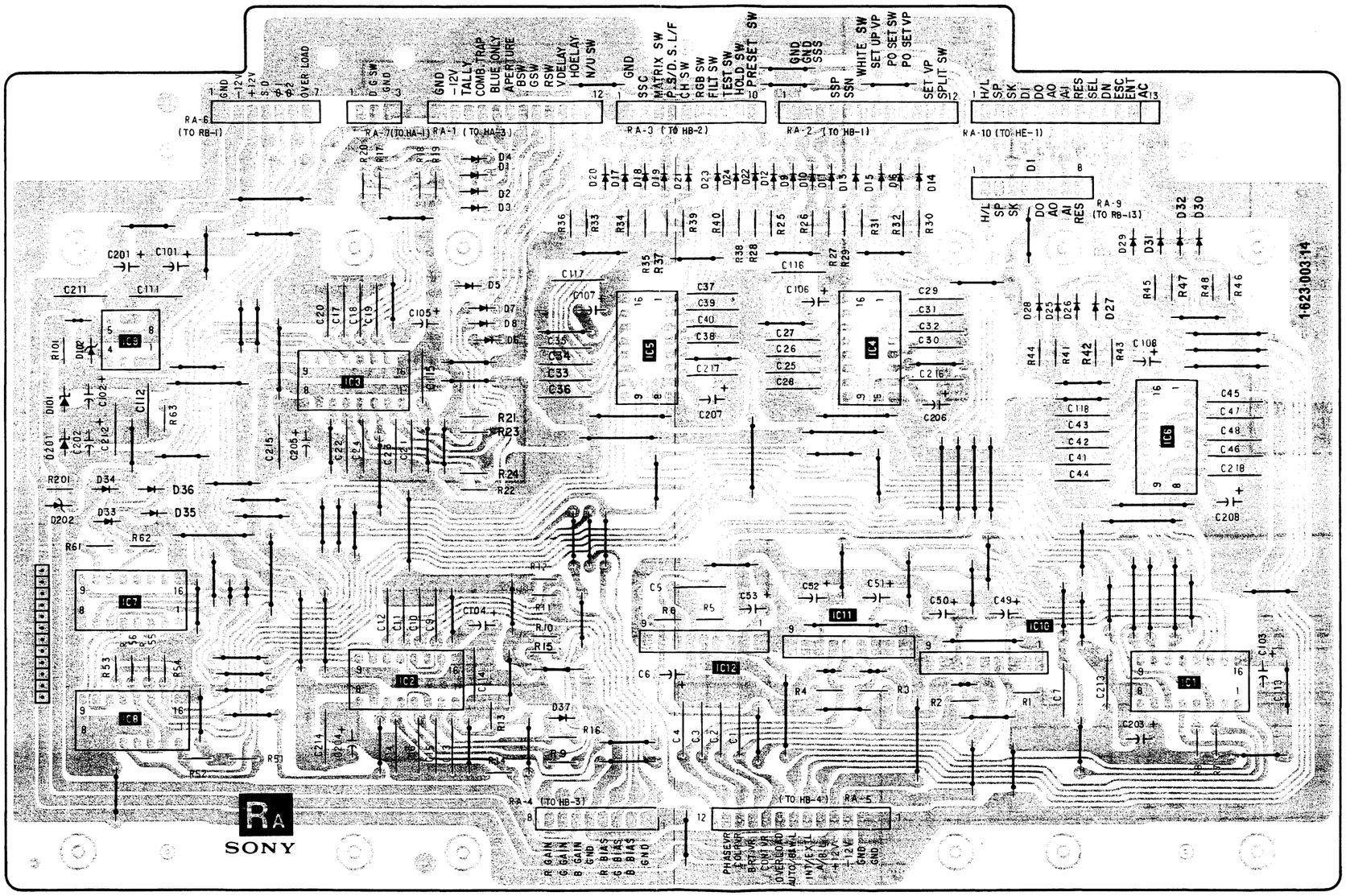




GC BOARD

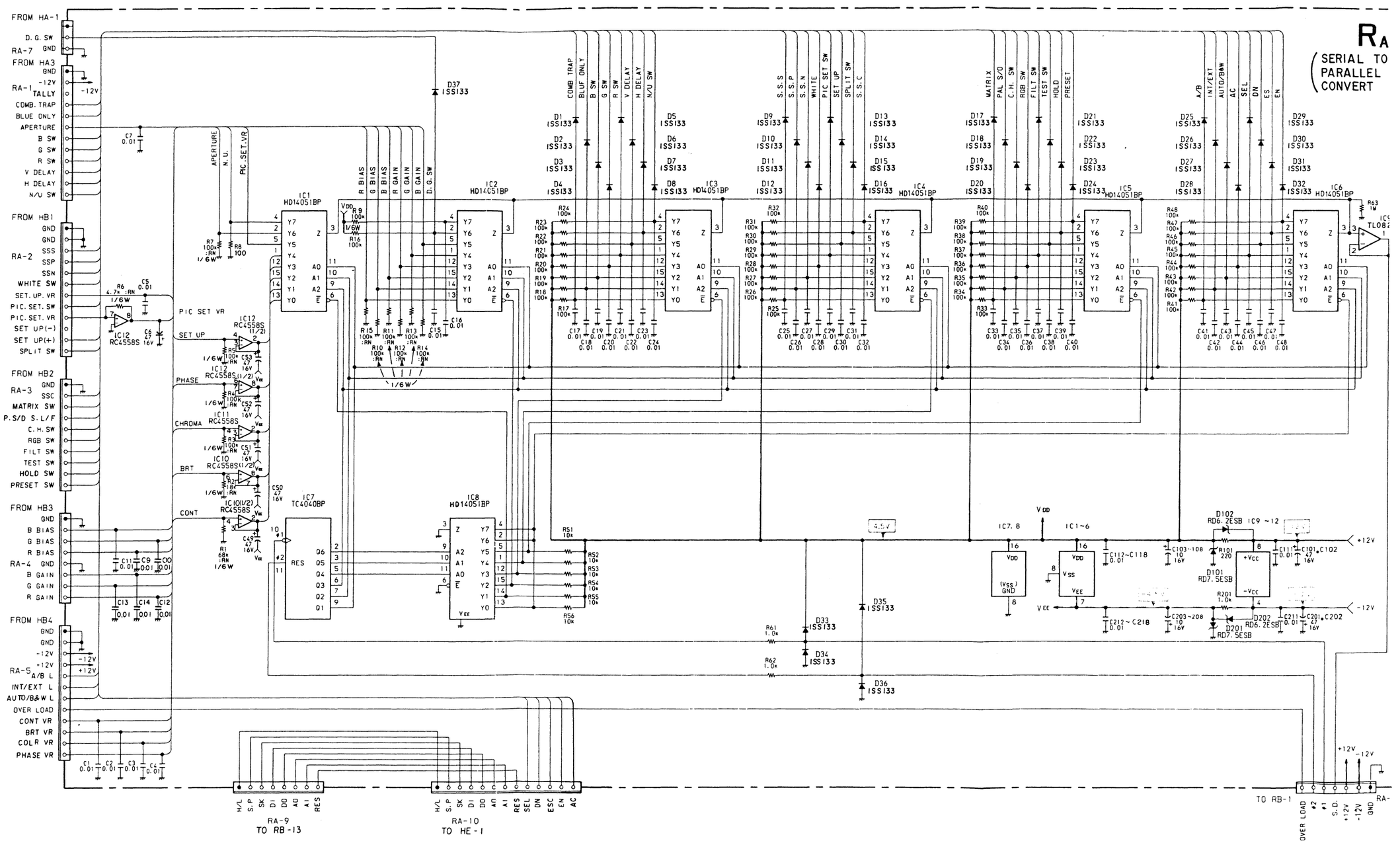
| | | |
|---|---|---|
| IC1 | uPC7972H | -12V REG |
| 2 | uPC7972H | -12V REG |
| 3 | uPC7812H | +12V REG |
| 4 | uPC7812H | +12V REG |

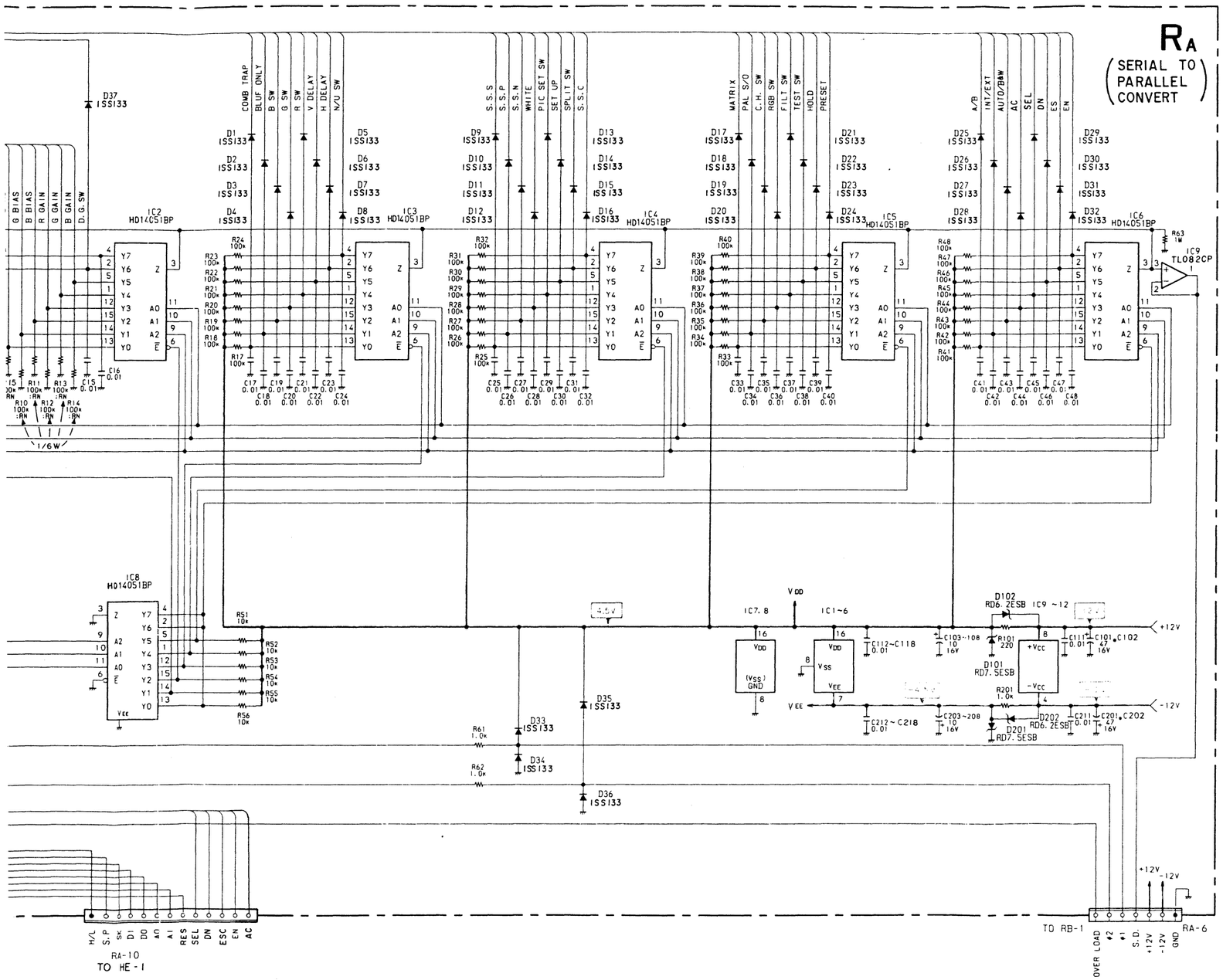
**RA board (SERIAL TO PARALLEL CONVERT)**

| | |
|---|---|
| IC | 9<br>7<br>8<br>3<br>2<br>5<br>12<br>11<br>4<br>10<br>6<br>1 |
| D | 101 102<br>202 201<br>34<br>33<br>36<br>35<br>4 2<br>5 1 3<br>7<br>8<br>6<br>37<br>20 17 18 19 21 23 24 22 12 9 10 11 13 15 16 14<br>28 25 26 27<br>29<br>31<br>32<br>30 |



## RA board (SERIAL TO PARALLEL CONVERT)








RA BOARD

| | | |
|---|---|---|
| D 1 | 1SS133 | SWITCH |
| 2 | 1SS133 | SWITCH |
| 3 | 1SS133 | SWITCH |
| 4 | 1SS133 | SWITCH |
| 5 | 1SS133 | SWITCH |
| 6 | 1SS133 | SWITCH |
| 7 | 1SS133 | SWITCH |
| 8 | 1SS133 | SWITCH |
| 9 | 1SS133 | SWITCH |
| 10 | 1SS133 | SWITCH |
| 11 | 1SS133 | SWITCH |
| 12 | 1SS133 | SWITCH |
| 13 | 1SS133 | SWITCH |
| 14 | 1SS133 | SWITCH |
| 15 | 1SS133 | SWITCH |
| 16 | 1SS133 | SWITCH |
| 17 | 1SS133 | SWITCH |
| 18 | 1SS133 | SWITCH |
| 19 | 1SS133 | SWITCH |
| 20 | 1SS133 | SWITCH |
| D 21 | 1SS133 | SWITCH |
| 22 | 1SS133 | SWITCH |
| 23 | 1SS133 | SWITCH |
| 24 | 1SS133 | SWITCH |
| 25 | 1SS133 | SWITCH |
| 26 | 1SS133 | SWITCH |
| 27 | 1SS133 | SWITCH |
| 28 | 1SS133 | SWITCH |
| 29 | 1SS133 | SWITCH |
| 30 | 1SS133 | SWITCH |
| 31 | 1SS133 | SWITCH |
| 32 | 1SS133 | SWITCH |
| 33 | 1SS133 | SWITCH |
| 34 | 1SS133 | PROTECTER |
| 35 | 1SS133 | PROTECTER |
| 36 | 1SS133 | PROTECTER |
| 37 | 1SS133 | PROTECTER |
| | | |
| D101 | RD7.5ES-T1B | +4.5V REG |
| 102 | RD6.2ES-T1B | +4.5V REG |
| 201 | RD7.5ES-T1B | -4.5V REG |
| 202 | RD6.2ES-T1B | -4.5V REG |
| | | |
| IC 1 | HD14051BP | MULTIPLEXER |
| 2 | HD14051BP | MULTIPLEXER |
| 3 | HD14051BP | MULTIPLEXER |
| 4 | HD14051BP | MULTIPLEXER |
| 5 | HD14051BP | MULTIPLEXER |
| 6 | HD14051BP | MULTIPLEXER |
| 7 | TC4040BP | COUNTER |
| 8 | HD14051BP | DECODER |
| 9 | UPC4082C | BUFFER |
| 10 | RC4558S | SAMPLE HOLD |
| 11 | RC4558S | BUFFER |
| 12 | RC4558S | BUFFER |
| | | |

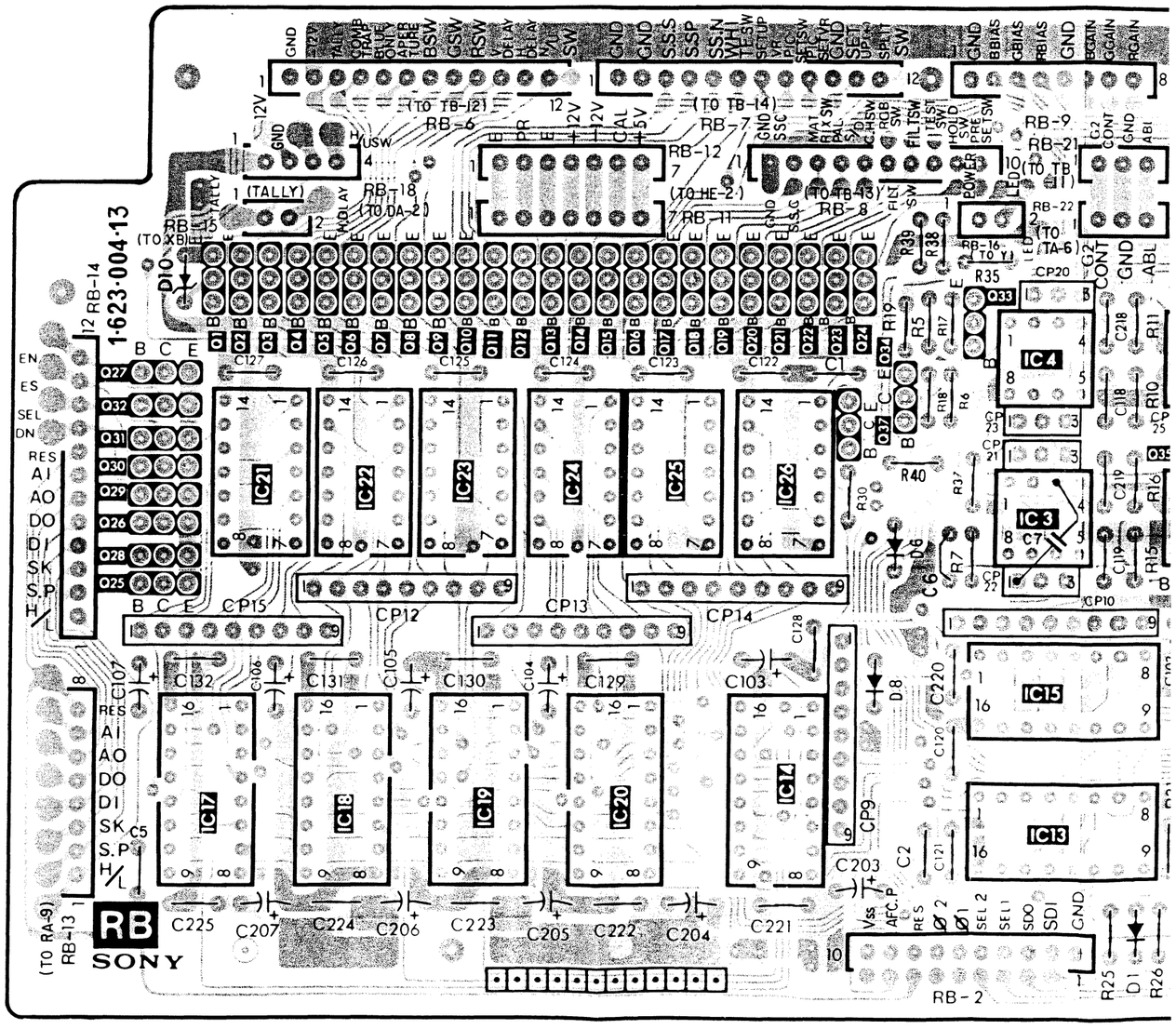
## RB board (PARALLEL TO SERIAL CONVERT)

RB BOARD

| | | |
|---|---|---|
| D 1 | 1SS148 | SWITCH |
| 2 | 1SS148 | SWITCH |
| 3 | 1SS148 | SWITCH |
| 4 | 1SS148 | SWITCH |
| 5 | 1SS148 | SWITCH |
| 6 | 1SS148 | SWITCH |
| 7 | 1SS148 | SWITCH |
| 8 | 1SS148 | SWITCH |
| | | |
| 10 | RD13ES-T1B | |
| | | |
| | | |
| | | |
| | | |
| 101 | RD7.5ESB | +4.5V REG |
| | | |
| 201 | RD7.5ESB | -4.5V REG |
| | | |
| | | |
| IC 1 | TL082CP | DE-MULTIPLEXER |
| 2 | TL082CP | DE-MULTIPLEXER |
| 3 | TL082CP | SAMPLE HOLD |
| 4 | TL082CP | SAMPLE HOLD |
| 5 | TL082CP | SAMPLE HOLD |
| 6 | TL082CP | SAMPLE HOLD |
| 7 | TL082CP | SAMPLE HOLD |
| 8 | TL082CP | SAMPLE HOLD |
| 9 | TL082CP | SAMPLE HOLD |
| 10 | TL082CP | SAMPLE HOLD |
| 11 | TC4053BP | DE-MULTIPLEXER |
| | | |
| 13 | HD14051BP | COUNTER |
| 14 | HD14051BP | DECODER |
| 15 | HD14051BP | DE-MULTIPLEXER |
| IC16 | HD14051BP | DE-MULTIPLEXER |
| 17 | HD14051BP | DE-MULTIPLEXER |
| 18 | HD14051BP | DE-MULTIPLEXER |
| 19 | HD14051BP | DE-MULTIPLEXER |
| 20 | HD14051BP | DE-MULTIPLEXER |
| 21 | uPD4069UBC | SAMPLE HOLD |
| 22 | uPD4069UBC | SAMPLE HOLD |
| 23 | uPD4069UBC | SAMPLE HOLD |
| 24 | uPD4069UBC | SAMPLE HOLD |
| 25 | uPD4069UBC | SAMPLE HOLD |
| 26 | uPD4069UBC | SAMPLE HOLD |
| | | |
| Q 1 | DTC144ES | OUTPUT BUFFER |
| 2 | DTC144ES | OUTPUT BUFFER |
| 3 | DTC144ES | OUTPUT BUFFER |
| 4 | DTC144ES | OUTPUT BUFFER |
| 5 | DTC144ES | OUTPUT BUFFER |

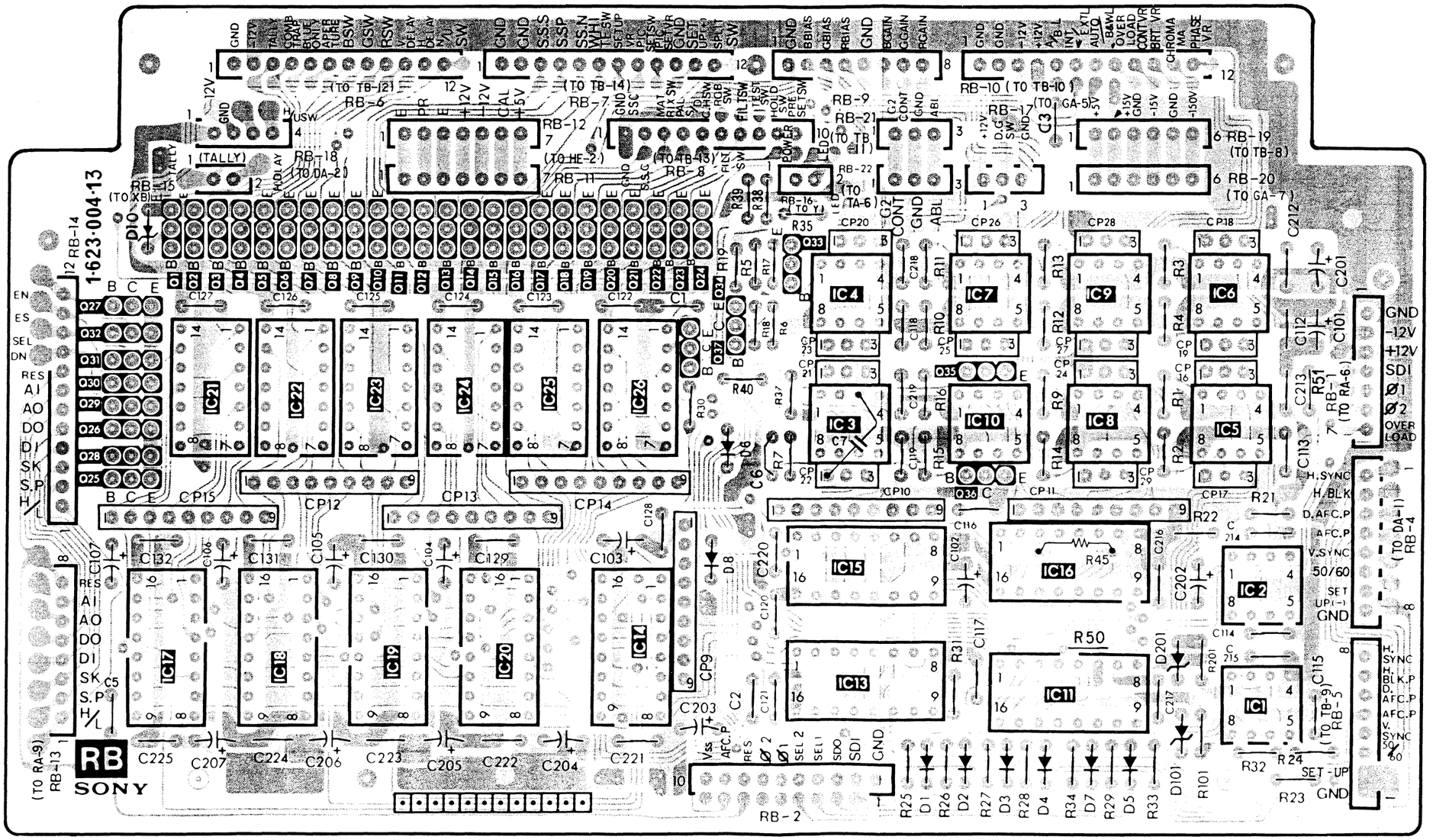
| | | |
|---|---|---|
| Q 6 | DTC144ES | OUTPUT BUFFER |
| 7 | DTC144ES | OUTPUT BUFFER |
| 8 | DTC144ES | OUTPUT BUFFER |
| 9 | DTC144ES | OUTPUT BUFFER |
| 10 | DTC144ES | OUTPUT BUFFER |
| 11 | DTC144ES | OUTPUT BUFFER |
| 12 | DTC144ES | OUTPUT BUFFER |
| 13 | DTC144ES | OUTPUT BUFFER |
| 14 | DTC144ES | OUTPUT BUFFER |
| 15 | DTC144ES | OUTPUT BUFFER |
| 16 | DTC144ES | OUTPUT BUFFER |
| 17 | DTC144ES | OUTPUT BUFFER |
| 18 | DTC144ES | OUTPUT BUFFER |
| 19 | DTC144ES | OUTPUT BUFFER |
| 20 | DTC144ES | OUTPUT BUFFER |
| 21 | DTC144ES | OUTPUT BUFFER |
| 22 | DTC144ES | OUTPUT BUFFER |
| Q 23 | DTC144ES | OUTPUT BUFFER |
| 24 | DTC144ES | OUTPUT BUFFER |
| 25 | DTC144ES | OUTPUT BUFFER |
| 26 | DTC144ES | OUTPUT BUFFER |
| 27 | DTC144ES | OUTPUT BUFFER |
| 28 | DTC144ES | OUTPUT BUFFER |
| 29 | DTC144ES | OUTPUT BUFFER |
| 30 | DTC144ES | OUTPUT BUFFER |
| 31 | DTC144ES | OUTPUT BUFFER |
| 32 | DTC144ES | OUTPUT BUFFER |
| 33 | 2SA1175 | OUTPUT BUFFER |
| 34 | 2SA1175 | OUTPUT BUFFER |
| 35 | DTC144ES | OUTPUT BUFFER |
| 36 | DTC144ES | OUTPUT BUFFER |
| 37 | 2SA1175 | OUTPUT BUFFER |
| | | |
| | | |

| | |
|---|---|
| IC | 17 21 18 22 19 23 20 24 25 14 26 4 3 15 13 |
| Q | 27, 29 32, 26 31, 28 30, 25 1, 2, 3, 4 5 6 7 8 9 10 11 12 13 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 37 34 33 |
| D | 10 8 6 1 |



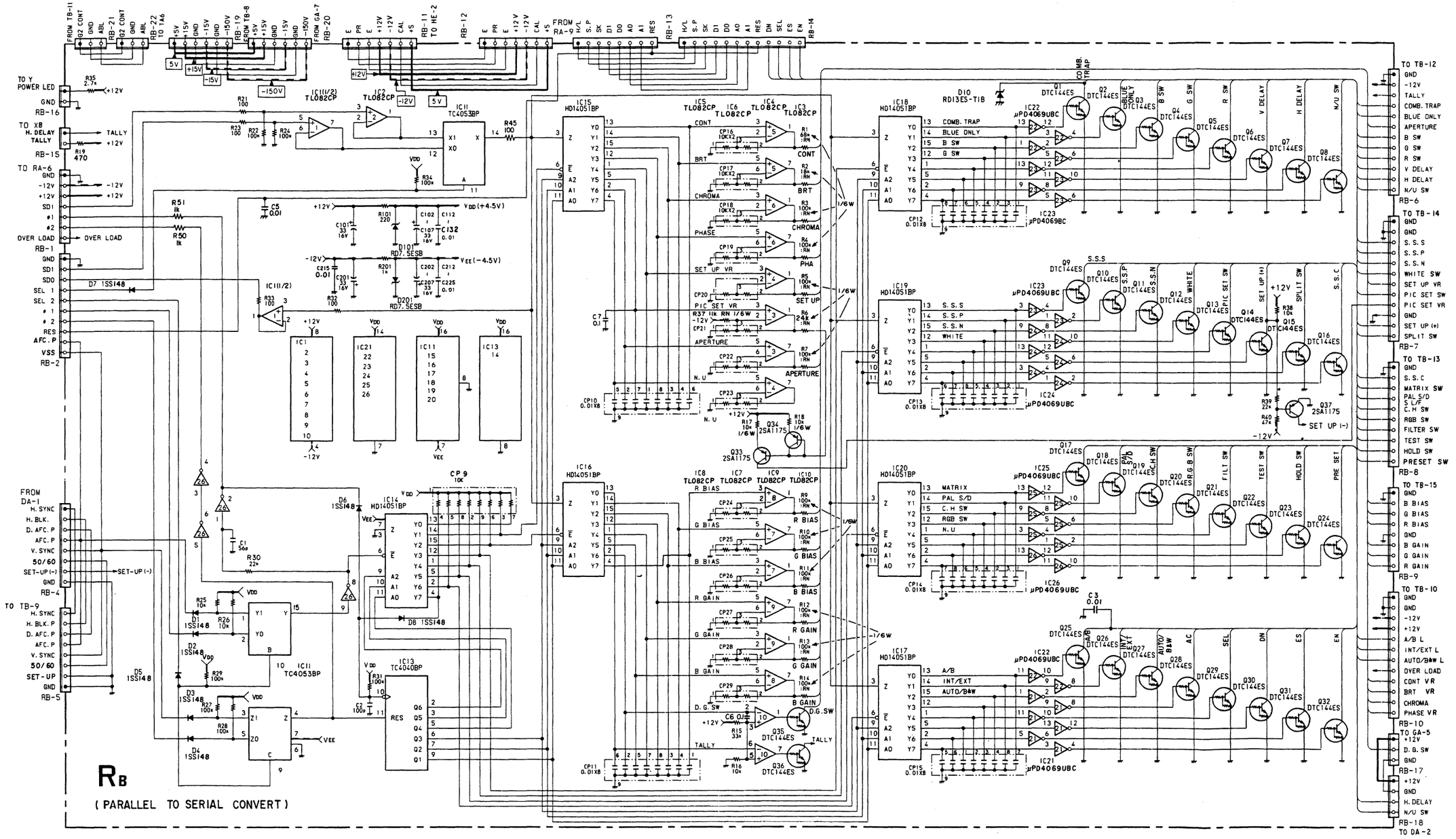
# RB RB

| | |
|---|---|
| IC | 17 21 18 22 19 23 20 24 25 14 26 3 4 15 13 10 7 16 11 8 9 5 6 2 1 |
| Q | 27, 29 32, 26 31, 28 30, 25 1, 2, 3, 4 5 6 7 8 9 10 11 12 13 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 37 34 33 35 36 |
| D | 10 8 6 1 2 3 4 7 5 101 202 |

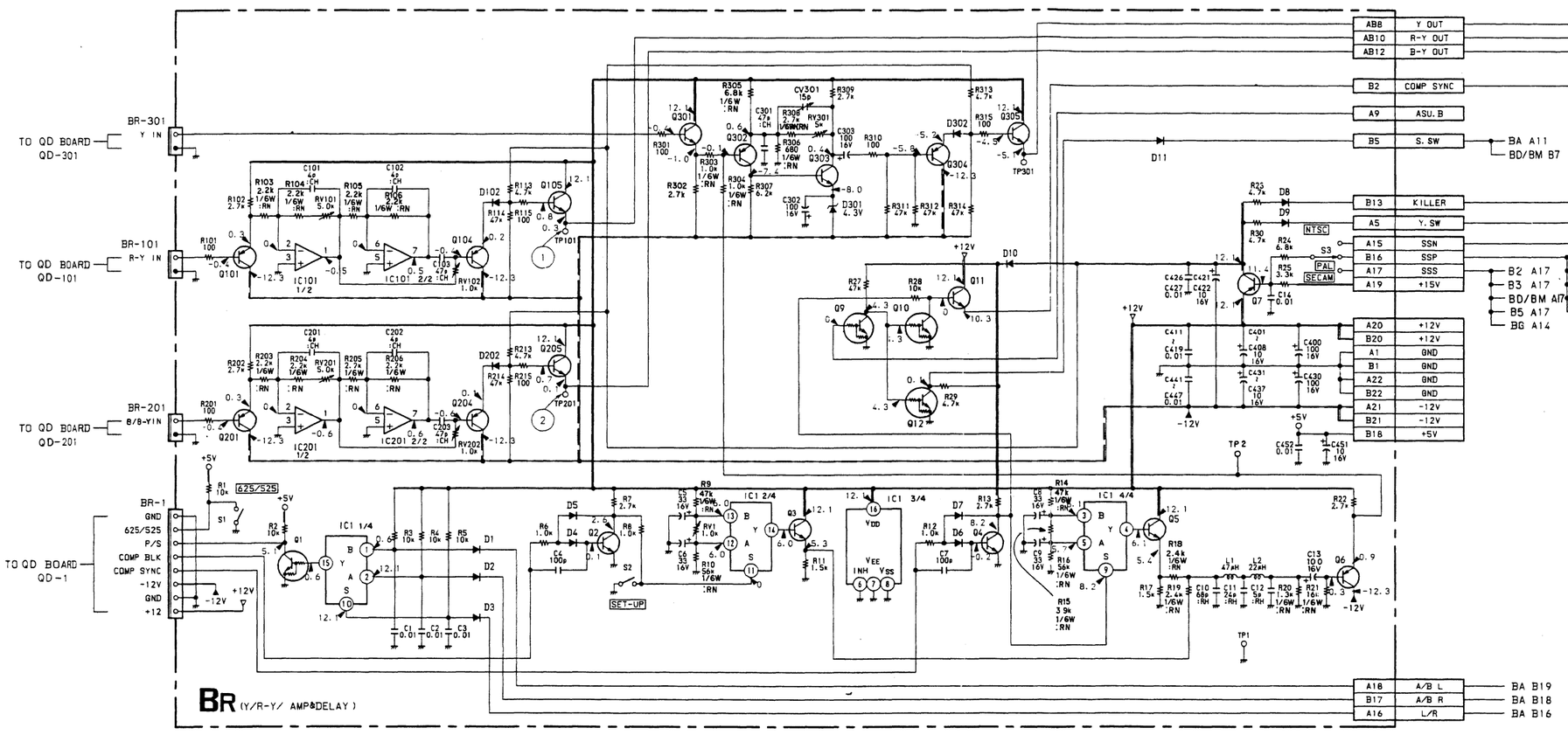



• : Conductor side patter
• : Component side patte

## RB board (PARALLEL TO SERIAL CONVERT)



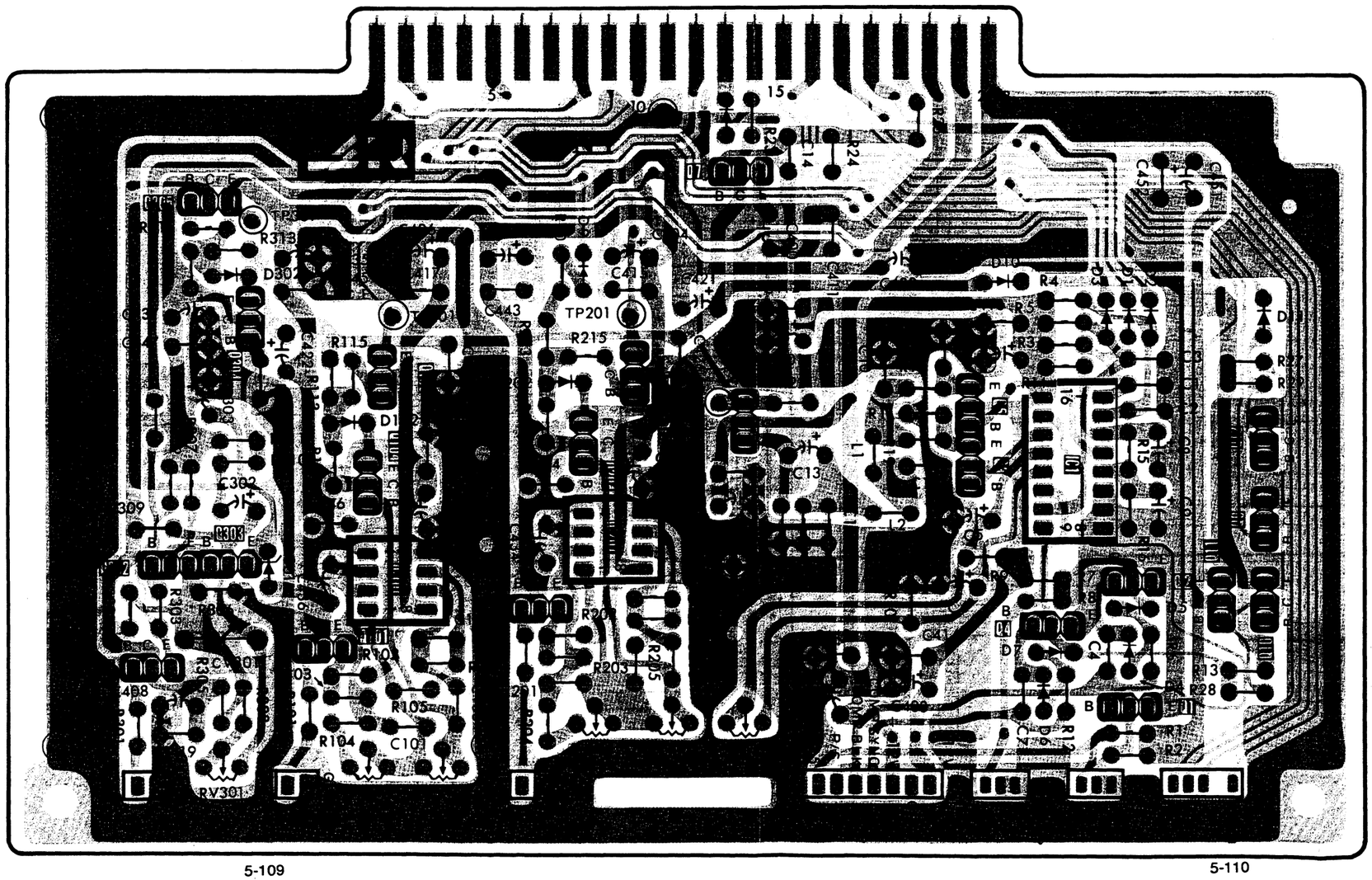
## BR board (R-Y AMP & DELAY, Y AMP, R-Y BUFFER) (BVM-2010PD/PMD only)




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BR | IC | 1 | TC4053BPHB | MULTIPLEXER | D | 102 | 1SS119 | R-Y SW | Q | 12 | DTC144ES | SYNC INHIBIT |
| | | 101 | CX20197 | OP-AMPLIFIER | | 202 | 1SS119 | B-Y SW | | 101 | 2SA1175 | R-Y BUFFER |
| | | 201 | CX20197 | OP-AMPLIFIER | | 301 | RD4.3ES-B | OP.AMP.BIAS | | 104 | 2SA1175 | R-Y BUFFER |
| | | | | | | 302 | 1SS119 | Y SW | | 105 | 2SC3068 | R-Y BUFFER |
| | D | 1 | 1SS119 | A/B LOCAL IN | | | | | | 201 | 2SA1175 | B-Y BUFFER |
| | | 2 | 1SS119 | A/B REMOTE IN | Q | 1 | DTC144ES | P/S SELECTOR | | 204 | 2SA1175 | B-Y BUFFER |
| | | 3 | 1SS119 | LOC/REM IN | | 2 | 2SC2785 | BLANKING BUF. | | 205 | 2SC3068 | B-Y BUFFER |
| | | 4 | 1SS119 | BLANKING PRO. | | 3 | 2SC2785 | BLANKING BUF. | | 301 | 2SC2785 | Y BUFFER |
| | | 5 | 1SS119 | BLANKING PRO. | | 4 | 2SC2785 | COMP SYNC BUF. | | 302 | 2SA1175 | OP.AMPLIFIER |
| | | 6 | 1SS119 | COMP SYNC PRO. | | 5 | 2SC2785 | COMP SYNC PRO. | | 303 | 2SC2785 | OP.AMPLIFIER |
| | | 7 | 1SS119 | COMP SYNC PRO. | | 6 | 2SA1175 | COMP SYNC BUF. | | 304 | 2SA1175 | Y BUFFER |
| | | 8 | 1SS119 | KILLER OUT | | 7 | 2SA1175 | BR ENABLE | | 305 | 2SC3068 | Y BUFFER |
| | | 9 | 1SS119 | Y SW OUT | | 9 | DTC144ES | ASU. ENABLE | | | | |
| | | 10 | 1SS119 | BR ENABLE | | 10 | DTC144ES | SYNC ENABLE | | | | |
| | | 11 | 1SS119 | S. INHIBIT OUT | | 11 | 2SC3068 | COMP SYNC BUF. | | | | |

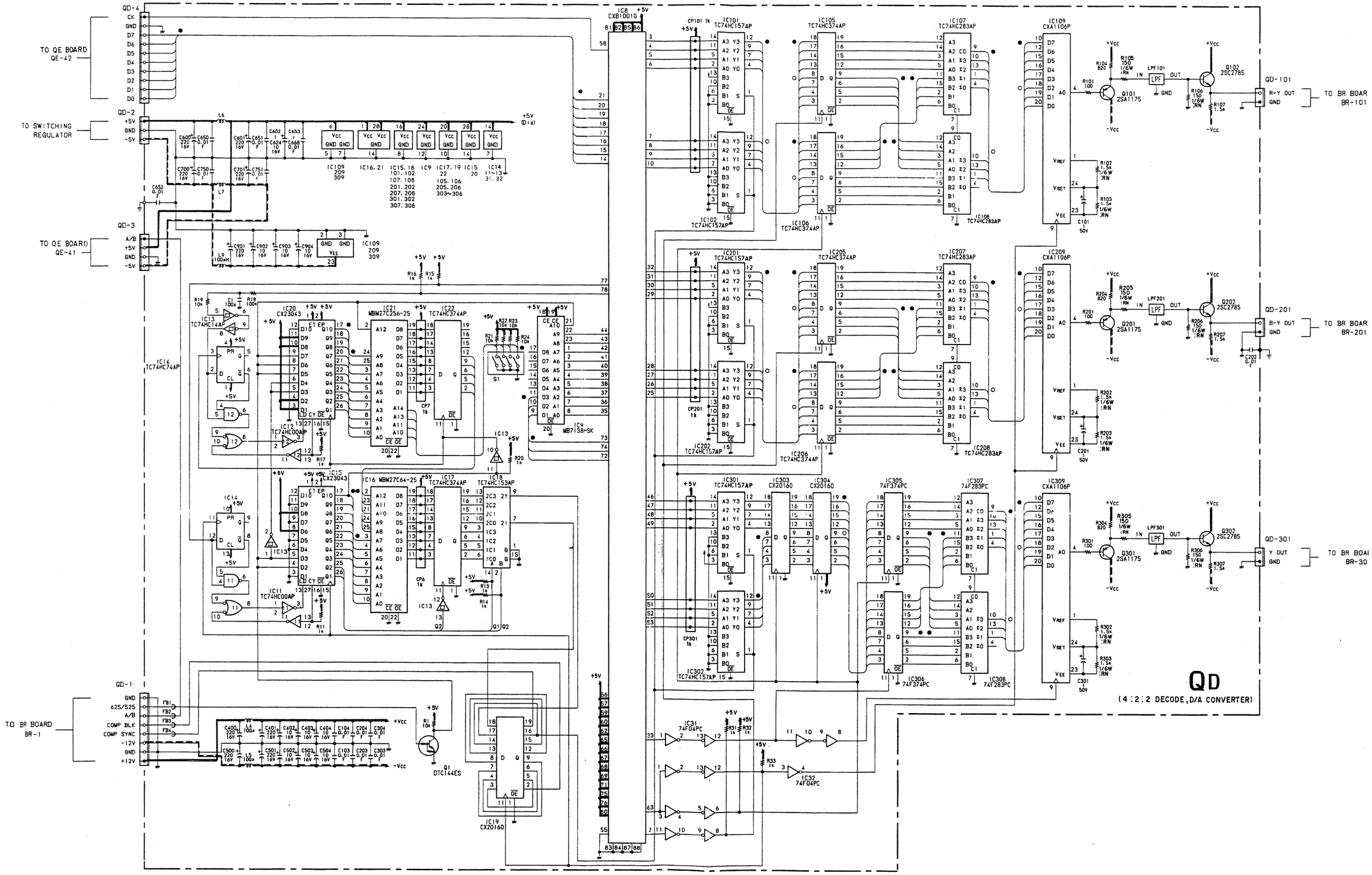
BR board (R-Y AMP & DELAY, Y AMP, R-Y BUFFER) (BVM-2010PD/PMD only)

| | | |
|---|---|---|
| IC | 101 201 1 | IC |
| Q | 305 304 105 205 7 5 2 12<br>301 302 303 101 104 201 204 6 3 4 1 11 9 10 | Q |
| D | 302 102 202 9 8 10 7 3,1,2 11<br>301 6 5 4 | D |
| ADJ | CV301 RV301 RV101 RV102 RV201 RV202 RV1 | ADJ |
| TP | 301 101 201 2 1 | TP |



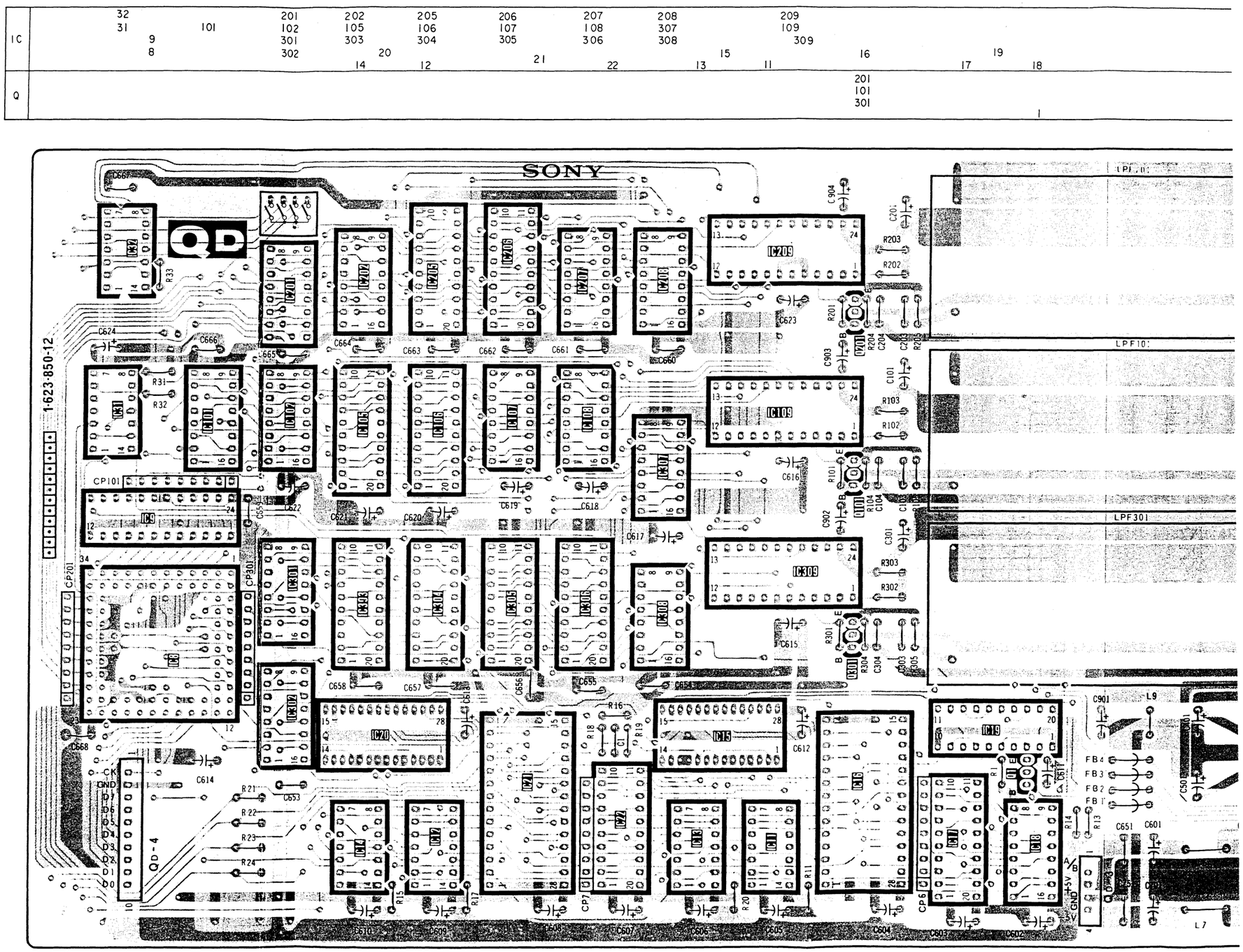

● : Conductor side pattern
● : Component side pattern

## QD board (4:2:2 DECODE, D/A CONVERTER) (BVM-2010PD/PMD only)



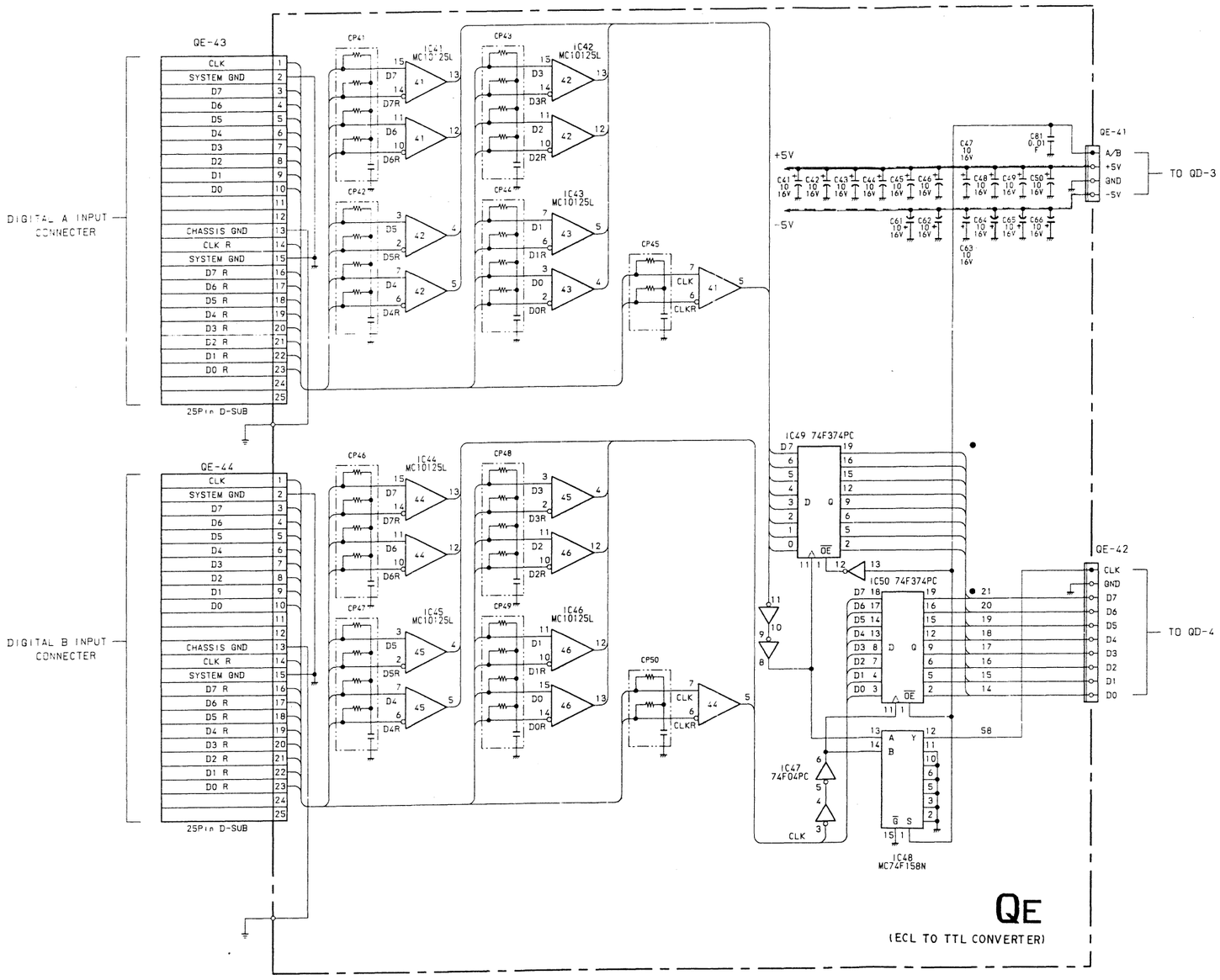
QD board (4:2:2 DECODE, D/A CONVERTER) (BVM-2010PD/PMD only)

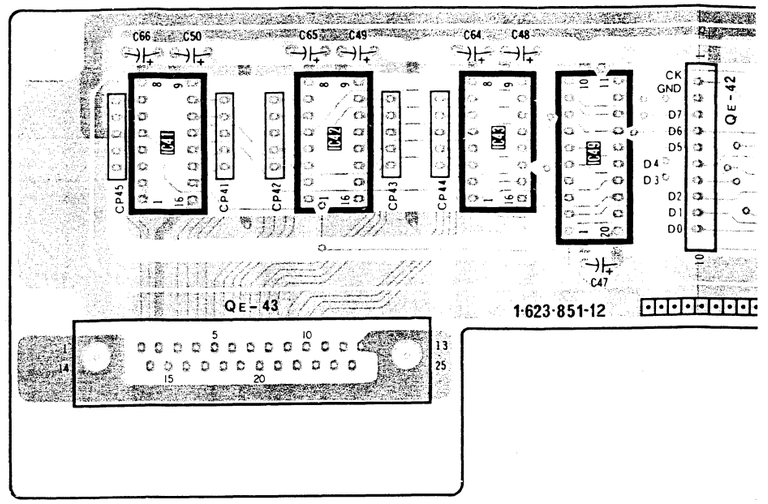
| | | | |
|---|---|---|---|
| | IC 8 | CXB1001G | |
| | 9 | MB7138HSK | |
| | 11 | TC74HC00AP | |
| | 12 | TC74HC00AP | |
| | 13 | TC74HC14AP | |
| | 14 | TC74HC74AP | |
| | 15 | CX23043 | |
| | 16 | MBM27C64-25 | |
| | 17 | TC74HC374AP | |
| | 18 | TC74HC153AP | |
| | 19 | CX20160 | |
| | 20 | CX23043 | |
| | 21 | MBM27C256-25 | |
| | IC 22 | TC74HC374AP | |
| | 31 | 74F04PC | |
| | 32 | 74F04PC | |
| | 101 | TC74HC157AP | |
| | 102 | TC74HC157AP | |
| | 105 | TC74HC374AP | |
| | 106 | TC74HC374AP | |
| | 107 | TC74HC283AP | |
| | 108 | TC74HC283AP | |
| | 109 | CXA1106P | |
| | IC 201 | TC74HC157AP | |
| | 202 | TC74HC157AP | |
| QD | 205 | TC74HC374AP | |
| | 206 | TC74HC374AP | |
| | 207 | TC74HC283AP | |
| | 208 | TC74HC283AP | |
| | 209 | CXA1106P | |
| | 301 | TC74HC157AP | |
| | 302 | TC74HC157AP | |
| | 303 | CX20160 | |
| | IC 304 | CX20160 | |
| | 305 | 74F374PC | |
| | 306 | 74F374PC | |
| | 307 | 74F283PC | |
| | 308 | 74F283PC | |
| | 309 | CXA1106P | |
| | | | |
| | Q 1 | DTC144ES | |
| | 101 | 2SC1175-F | |
| | 102 | 2SC2785-F | |
| | Q 201 | 2SC1175-F | |
| | 202 | 2SC2785-F | |
| | 301 | 2SC1175-F | |
| | 302 | 2SC2785-F | |



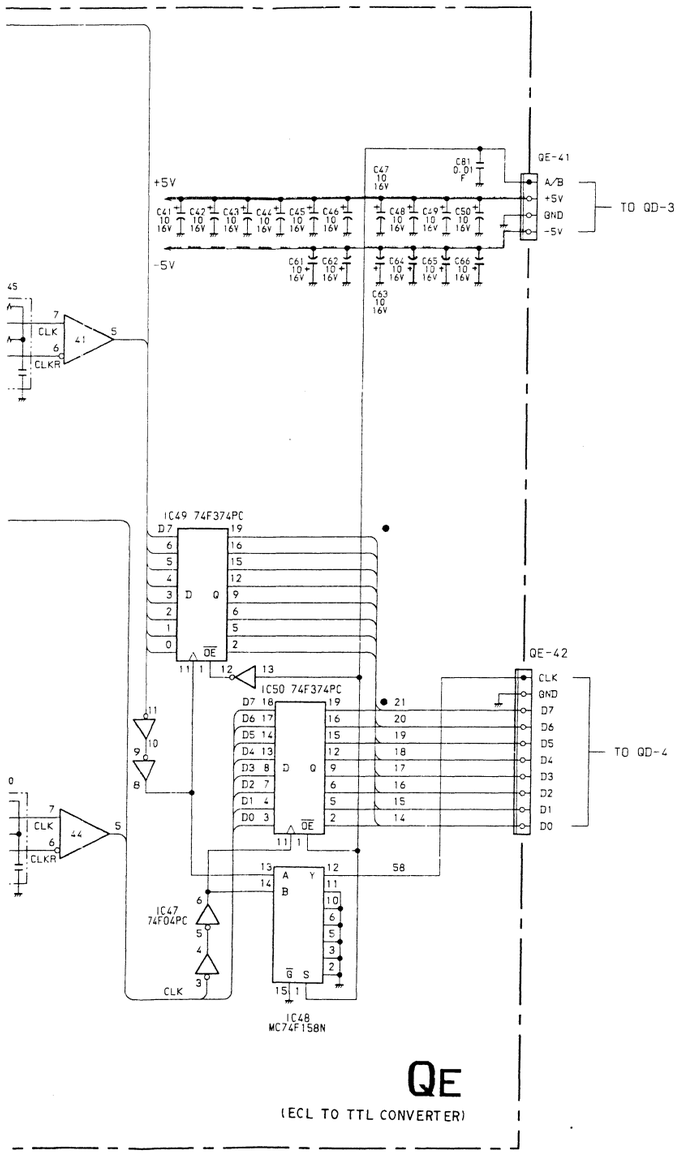
| | | |

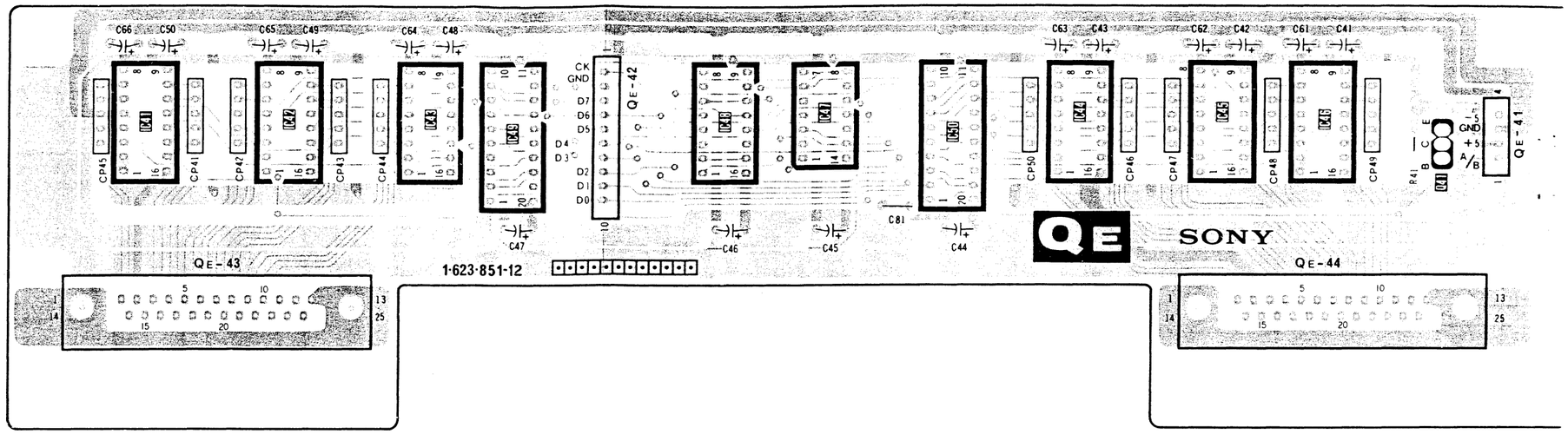
## QE board (ECL TO TTL CONVERTER) (BVM-2010PD/PMD only)




| | | | |
|---|---|---|---|
| QE | IC 41 | MC10125L | |
| | 42 | MC10125L | |
| | 43 | MC10125L | |
| | 44 | MC10125L | |
| | 45 | MC10125L | |
| | 46 | MC10125L | |
| | 47 | 74F04PC | |
| | 48 | MC74F158N | |
| | 49 | 74F374PC | |
| | 50 | 74F374PC | |

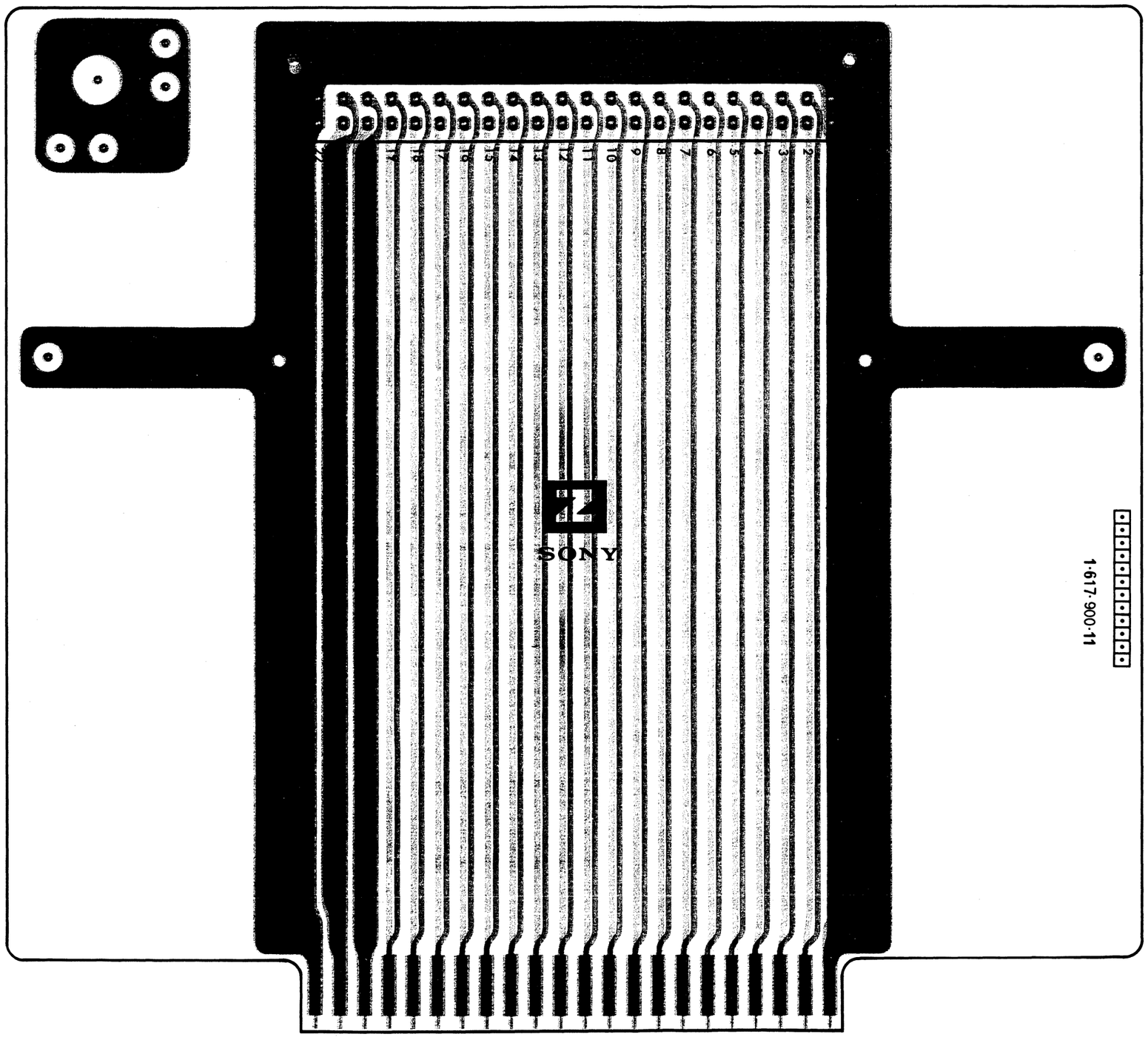



- : Conductor side pattern
- : Component side pattern

| | | | |
|---|---|---|---|
| QE | IC 41 | MC10125L | |
| | 42 | MC10125L | |
| | 43 | MC10125L | |
| | 44 | MC10125L | |
| | 45 | MC10125L | |
| | 46 | MC10125L | |
| | 47 | 74F04PC | |
| | 48 | MC74F158N | |
| | 49 | 74F374PC | |
| | 50 | 74F374PC | |

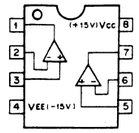
Z board (EXTENSION BOARD)



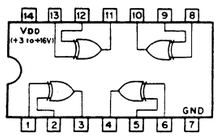

● ▬▬ : Conductor side pattern
● ▒▒▒ : Component side pattern

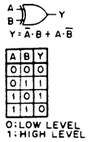
## 5-4. SEMICONDUCTORS

BA4558 (ROHM)
HA17558 (HITACHI)
NJM4558D (JRC)
uPC4558C (NEC)
OPERATIONAL AMPLIFIER
— TOP VIEW —




TC4030BP (TOSHIBA)
TC4030BPHB (TOSHIBA)
C-MOS EXCLUSIVE OR GATE
— TOP VIEW —

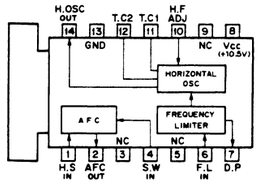



| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

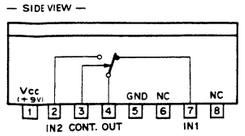
0: LOW LEVEL
1: HIGH LEVEL

CX158 (SONY)
HORIZONTAL DEFLECTION OSCILLATOR/FREQUENCY LIMITER
— TOP VIEW —




D.P ; DISCHARGE PROTECTION
F.L IN ; FREQUENCY LIMITTER IN
H.F ADJ ; HORIZONTAL FREQUENCY ADJ
H.OSC OUT ; HORIZONTAL OSCILLATOR OUT
H.S IN ; HORIZONTAL SYNC IN
S.W IN ; SAW WAVE IN
T.C 1/2 ; TIME CONSTANT 1/2

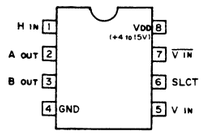
CX20061 (SONY)
ANALOG SWITCH
— SIDE VIEW —

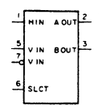



| CONT. | SW |
|---|---|
| 0 | |
| 1 | |

0, LOW LEVEL
1 ; HIGH LEVEL

CX23025 (SONY)
C-MOS TV-VTR SYNC. SIGNAL DISCRIMINATOR
— TOP VIEW —




A OUT ; SYNC SIGNAL DISCRIMINATION OUTPUT
B OUT ; SYNC SIGNAL DISCRIMINATION OUTPUT
H IN HORIZONTAL SYNC INPUT
SLCT ; POWER ON INITIALIZED SELECT INPUT
V IN ; VERTICAL SYNC INPUT
$\overline{V\ IN}$ ; VERTICAL SYNC INPUT

POWER ON INITIALIZED

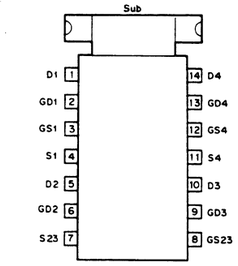
| SLCT INPUT | A OUTPUT | B OUTPUT |
|---|---|---|
| 1 | 0 | 1 |
| 0 | 1 | 0 |

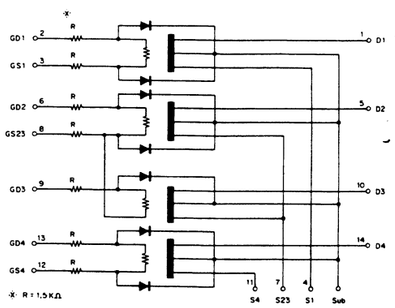
DISCRIMINATION

| V SYNC INPUT FREQUENCY | OUTPUTS A | B |
|---|---|---|
| 50Hz | 0 | 1 |
| 60Hz | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

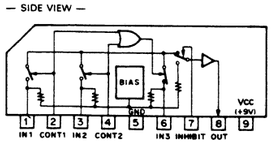
CX-718D (SONY)
SRG FET IC
— TOP VIEW —



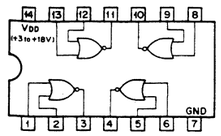



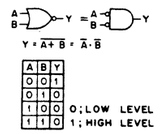

* R = 1.5KΩ

CX894 (SONY)
3 INPUT SWITCH
— SIDE VIEW —




HD14001BP (HITACHI)
MC14001BCP (MOTOROLA)
TC4001BP (TOSHIBA)
uPD4001BC (NEC)
C-MOS 2-INPUT NOR GATE
— TOP VIEW —

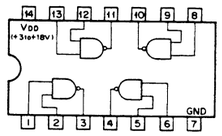


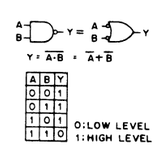




| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

HD14011BP (HITACHI)
MC14011BCP (MOTOROLA)
TC4011BP (TOSHIBA)
uPD4011BC (NEC)
C-MOS 2-INPUT NAND GATE
— TOP VIEW —

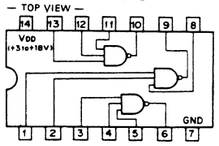


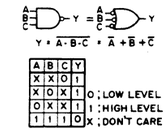




| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0:LOW LEVEL
1:HIGH LEVEL

HD14023BP
MC14023BCP (MOTOROLA)
TC4023BP (TOSHIBA)
uPD4023BC (NEC)
C-MOS 3-INPUT NAND GATE
— TOP VIEW —

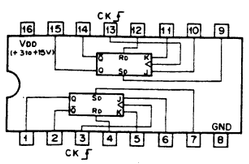



| A | B | C | Y |
|---|---|---|---|
| X | X | 0 | 1 |
| X | 0 | X | 1 |
| 0 | X | X | 1 |
| 1 | 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

HD14027BP (HITACHI)
M884027B (FUJITSU)
MC14027BCP (MOTOROLA)
TC5040027BP (TOSHIBA)
uPD4027BC (NEC)
C-MOS J-K MASTER SLAVE FLIP-FLOP WITH DIRECT SET/RESET
— TOP VIEW —




DIRECT R-S FLIP FLOP

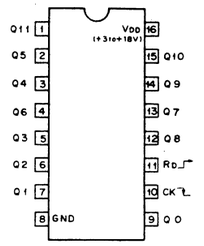
| Sp | Rp | Q |
|---|---|---|
| 0 | 0 | Qn |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

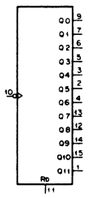
J-K FLIP FLOP

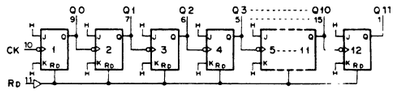
| J | K | tn+1 |
|---|---|---|
| 0 | 0 | Qn |
| 0 | 1 | 0 |
| 1 | 0 | 1 |
| 1 | 1 | Q̄n |

0 ; LOW LEVEL
1 ; HIGH LEVEL
CK: $\sqrt{\ }$
tn; BEFORE CLOCK
tn+1; AFTER CLOCK

HD14040BP (HITACHI)
MC14040BCP (MOTOROLA)
TC4040BP (TOSHIBA)
uPD4040C (NEC)
C-MOS 12-STAGE RIPPLE CARRY BINARY COUNTER/DRIVER
— TOP VIEW —



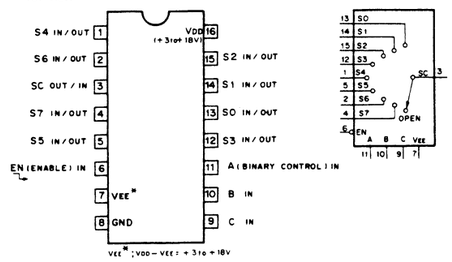




| COUNT | Q11 | Q10 | Q9 | Q8 | Q7 | Q6 | Q5 | Q4 | Q3 | Q2 | Q1 | Q0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | | | | | | | | | |
| 4095 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

| RD | Q11 ····· Q0 |
|---|---|
| 1 | ALL LOW |
| 0 | COUNT |

0 ; LOW LEVEL
1 ; HIGH LEVEL

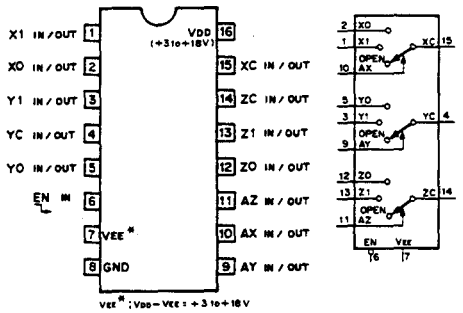
HD14051BP (HITACHI)
TC4051BP (TOSHIBA)
uPD4051BC (NEC)
C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —




| EN | C | B | A | "ON" CHANNEL |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 1 | 0 | 2 |
| 0 | 0 | 1 | 1 | 3 |
| 0 | 1 | 0 | 0 | 4 |
| 0 | 1 | 0 | 1 | 5 |
| 0 | 1 | 1 | 0 | 6 |
| 0 | 1 | 1 | 1 | 7 |
| 1 | X | X | X | OPEN |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

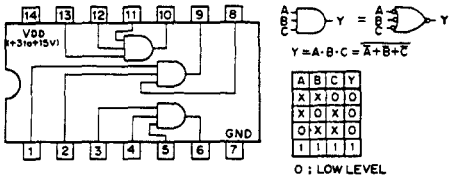
HD14053BP (HITACHI)
MC14053BCP (MOTOROLA)
TC4053BPHB (TOSHIBA)
uPD4053BC (NEC)
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER
— TOP VIEW —




| CONT. INPUTS | | ON |
|---|---|---|
| EN | A (X,Y,Z) | CHANNEL |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | OPEN |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE.

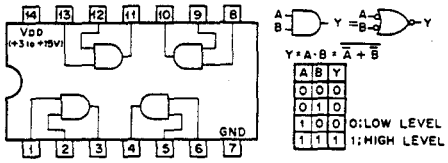
HD14073BP (HITACHI)
MC14073BCP (MOTOROLA)
TC4073BP (TOSHIBA)
uPD4073BC (NEC)
C-MOS 3-INPUT POSITIVE AND GATE
— TOP VIEW —




| A | B | C | Y |
|---|---|---|---|
| X | X | 0 | 0 |
| X | 0 | X | 0 |
| 0 | X | X | 0 |
| 1 | 1 | 1 | 1 |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

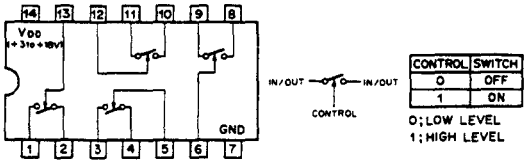
HD14081BP (HITACHI)
MC14081BCP (MOTOROLA)
TC4081BP (TOSHIBA)
uPD4081BC (NEC)
C-MOS 2-INPUT AND GATE
— TOP VIEW —




| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

0:LOW LEVEL
1:HIGH LEVEL

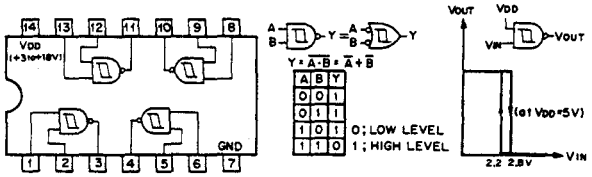
HD14066BP (HITACHI)
MB84066B (FUJITSU)
uPD4066C (NEC)
C-MOS BILATERAL ANALOG SWITCH
— TOP VIEW —




| CONTROL | SWITCH |
|---|---|
| 0 | OFF |
| 1 | ON |

0;LOW LEVEL
1;HIGH LEVEL

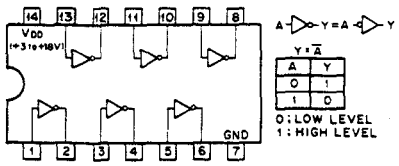
HD14093BP (HITACHI)
μPD4093BC (NEC)
TC4093BP (TOSHIBA)
C-MOS 2-INPUT NAND SCHMITT TRIGGER
— TOP VIEW —




| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0;LOW LEVEL
1;HIGH LEVEL

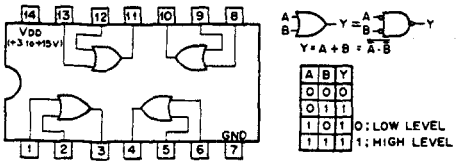
HD14069UBP (HITACHI)
MC14069BCP (MOTOROLA)
TC4069UBP (TOSHIBA)
uPD4069UBC (NEC)
C-MOS INVERTER
— TOP VIEW —




| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0;LOW LEVEL
1;HIGH LEVEL

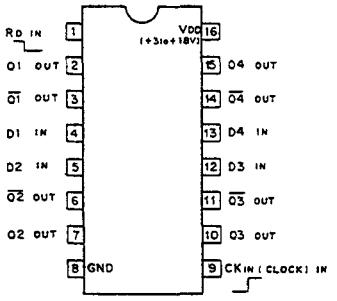
HD14071BP (HITACHI)
MC14071BCP (MOTOROLA)
TC4071BP (TOSHIBA)
uPD4071BC (NEC)
C-MOS 2-INPUT OR GATE
— TOP VIEW —

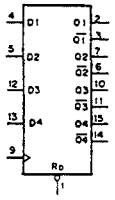



| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

0;LOW LEVEL
1;HIGH LEVEL

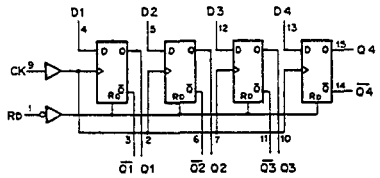
HD14175BP (HITACHI)
MC14175BCP (MOTOROLA)
TC40175BP (TOSHIBA)
μPD4175BC (NEC)
C-MOS DECADE COUNTER/DIVIDER
— TOP VIEW —



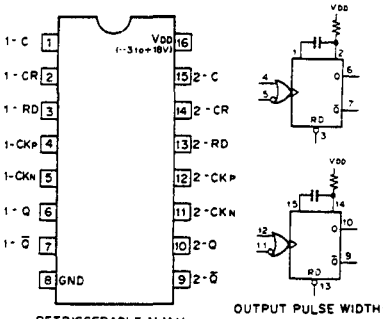




| CK | D | RD | Q | Q̄ |
|---|---|---|---|---|
| ↑ | 0 | 1 | 0 | 1 |
| ↓ | 1 | 1 | 1 | 0 |
| L | X | 1 | Q0 | Q̄0 |
| X | X | 0 | 0 | 1 |

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE



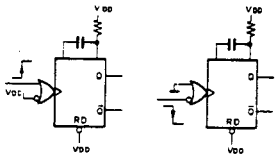

HD14538BP (HITACHI)
TC4538BP (TOSHIBA)
C-MOS DUAL RETRIGGERABLE/NON-RETRIGGERABLE MONOSTABLE MULTIVIBRATOR
— TOP VIEW —



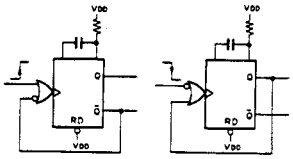

RETRIGGERABLE M.M.V



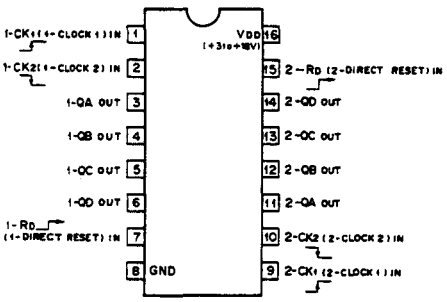

OUTPUT PULSE WIDTH=CR




NON-RETRIGGERABLE M.M.V

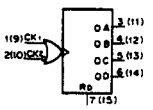



HD14520BP (HITACHI)
MC14520BCP (MOTOROLA)
TC4520BP (TOSHIBA)
TC4520BPHB (TOSHIBA)
μPD4520BC (NEC)
C-MOS DUAL 4-BIT BINARY UP COUNTER
— TOP VIEW —



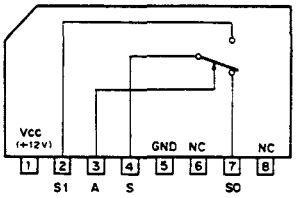

| STATE | OUTPUTS | | | |
|---|---|---|---|---|
| | QD | QC | QB | QA |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 1 | 0 |
| 3 | 0 | 0 | 1 | 1 |
| 4 | 0 | 1 | 0 | 0 |
| 5 | 0 | 1 | 0 | 1 |
| 6 | 0 | 1 | 1 | 0 |
| 7 | 0 | 1 | 1 | 1 |
| 8 | 1 | 0 | 0 | 0 |
| 9 | 1 | 0 | 0 | 1 |
| 10 | 1 | 0 | 1 | 0 |
| 11 | 1 | 0 | 1 | 1 |
| 12 | 1 | 1 | 0 | 0 |
| 13 | 1 | 1 | 0 | 1 |
| 14 | 1 | 1 | 1 | 0 |
| 15 | 1 | 1 | 1 | 1 |

0;LOW LEVEL
1;HIGH LEVEL
X;DON'T CARE




| CK1 | CK2 | RD | ACTION |
|---|---|---|---|
| ↓ | 1 | 0 | INCREMENT COUNTER |
| 0 | ↓ | 0 | INCREMENT COUNTER |
| ↑ | X | 0 | NO CHANGE |
| X | ↑ | 0 | NO CHANGE |
| ↓ | 0 | 0 | NO CHANGE |
| 1 | ↑ | 0 | NO CHANGE |
| X | X | 1 | QA THRU QD = 0 |

LA7016 (SANYO)
ELECTRONIC SWITCH
— SIDE VIEW —



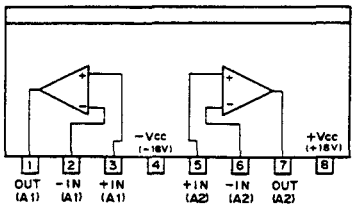




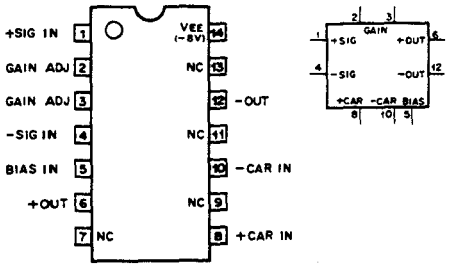
| CONT IN | ON CHANNEL |
|---|---|
| A | |
| 0 | SO |
| 1 | S1 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

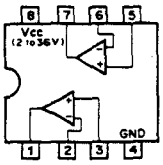
M5218L (MITSUBISHI)
LOW NOISE DUAL OPERATIONAL AMPLIFIER
— SIDE VIEW —



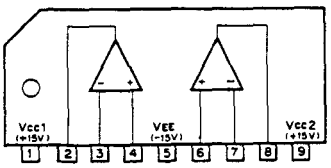
MC1496P (MOTOROLA)
BALANCED MODULATOR/DEMODULATOR
— TOP VIEW —



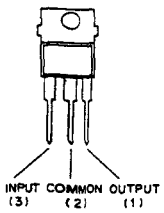

NJM2903D (JRC)
VOLTAGE COMPARATOR
— TOP VIEW —



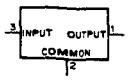

NJM4558S (JRC)
HIGH PERFORMANCE DUAL OPERATIONAL AMPLIFIER
— SIDE VIEW —



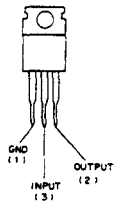

NJM78M12A (JRC)
POSITIVE VOLTAGE REGULATOR (500mA)
— FRONT VIEW —



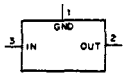

| | |
|---|---|
| 5V | NJM78M05A |
| 6V | NJM78M06A |
| 8V | NJM78M08A |
| 9V | NJM78M09A |
| 12V | NJM78M12A |
| 15V | NJM78M15A |
| 18V | NJM78M18A |
| 20V | NJM78M20A |
| 24V | NJM78M24A |



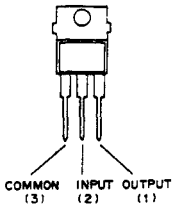

NJM7912A (JRC)
NEGATIVE VOLTAGE REGULATOR (1A)
— SIDE VIEW —



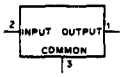

| OUTPUT VOLTAGE | ?? |
|---|---|
| -5V | 05 |
| -6V | 06 |
| -8V | 08 |
| -9V | 09 |
| -12V | 12 |
| -15V | 15 |
| -18V | 18 |
| -24V | 24 |



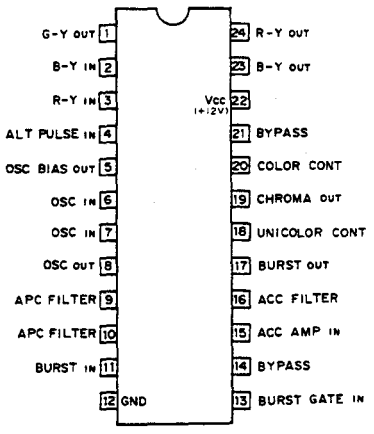

NJM79M12A (JRC)
NEGATIVE VOLTAGE REGULATOR (500mA)
— FRONT VIEW —

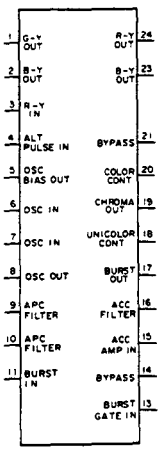



| | |
|---|---|
| -5V | NJM79M05A |
| -6V | NJM79M06A |
| -8V | NJM79M08A |
| -9V | NJM79M09A |
| -12V | NJM79M12A |
| -15V | NJM79M15A |
| -18V | NJM79M18A |
| -24V | NJM79M24A |

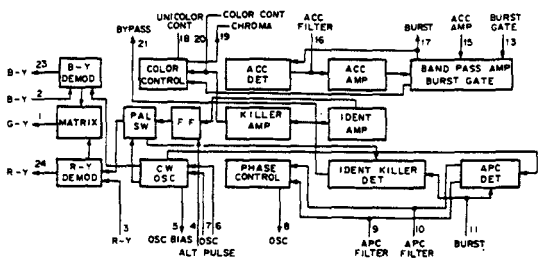



TA7193P (TOSHIBA)
TV CHROMA PROCESS (PAL)
— TOP VIEW —

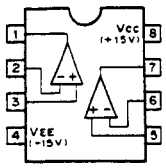


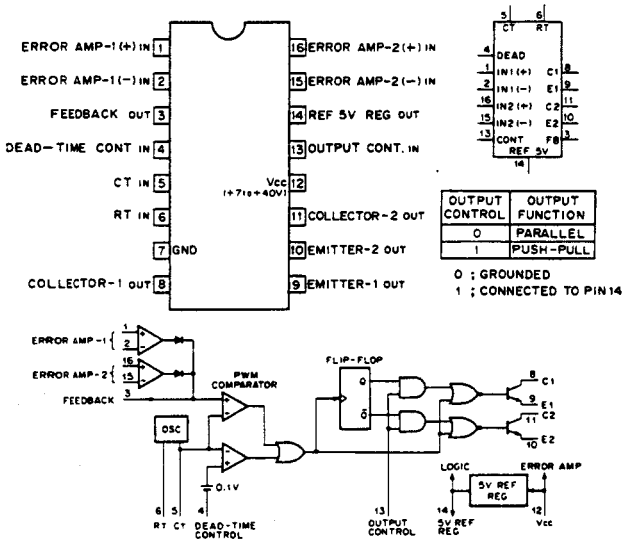

OUT ; OUTPUT
IN ; INPUT
CONT ; CONTROL



TL082CP (TI)
uPC4082C (NEC)
OPERATIONAL AMPLIFIER
(J FET-INPUT)
— TOP VIEW —




TL494CN (TI)
PWM POWER CONTROL
— TOP VIEW —

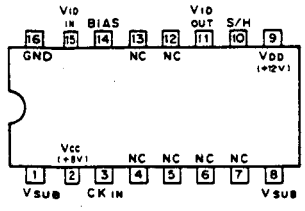


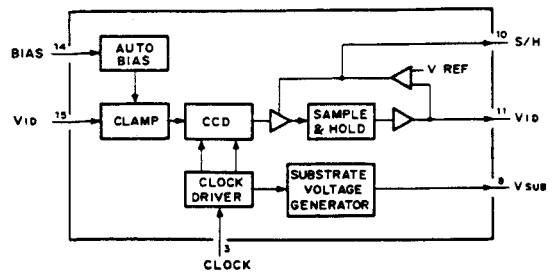

| OUTPUT CONTROL | OUTPUT FUNCTION |
|---|---|
| 0 | PARALLEL |
| 1 | PUSH-PULL |

0 ; GROUNDED
1 ; CONNECTED TO PIN 14

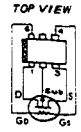



TL860BP (TOSHIBA)
N-CH CCD ANALOG PROCESSING UNIT
— TOP VIEW —

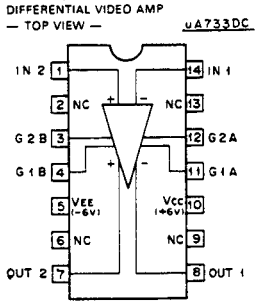


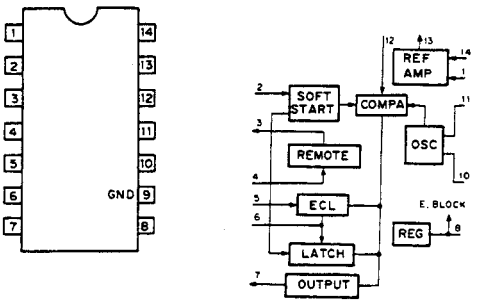

TOP VIEW



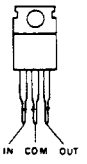

uA733CN (TI)
DIFFERENTIAL VIDEO AMP
— TOP VIEW —




μPC1394C (NEC)
CONTROLLER OF SWITCHING MODE POWER SUPPLY
— TOP VIEW —




μPC78M12H (NEC)
POSITIVE VOLTAGE REGULATOR (0.5A)
— SIDE VIEW —

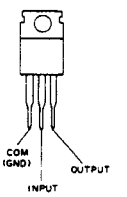


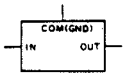

| OUTPUT VOLTAGE | uA78M??UC | PS78??M | uPC78M??H | L78M?? | HA178M??P |
|---|---|---|---|---|---|
| +5V | uA78M05UC | PS7805M | uPC78M05H | L78M05 | HA178M05P |
| +6V | uA78M06UC | -------- | ---------- | ------ | HA178M06P |
| +7V | ---------- | ------- | ---------- | ------ | HA178M07P |
| +8V | uA78M08UC | ------- | uPC78M08H | ------ | HA178M08P |
| +12V | uA78M12UC | PS7812M | uPC78M12H | ------ | HA178M12P |
| +15V | uA78M15UC | PS7815M | uPC78M15H | ------ | HA178M15P |
| +18V | ---------- | ------- | ---------- | ------ | HA178M18P |
| +20V | uA78M20UC | ------- | ---------- | ------ | HA178M20P |
| +24V | uA78M24UC | PS7824M | uPC78M24H | ------ | HA178M24P |




| OUTPUT VOLTAGE | AN78M?? |
|---|---|
| +5V | AN78M05 |
| +6V | AN78M06 |
| +7V | AN78M07 |
| +8V | AN78M08 |
| +9V | AN78M09 |
| +10V | AN78M10 |
| +12V | AN78M12 |
| +15V | AN78M15 |
| +18V | AN78M18 |
| +20V | AN78M20 |
| +24V | AN78M24 |

uPC79??H (NEC)
NEGATIVE VOLTAGE REGULATOR (1A)
— SIDE VIEW —



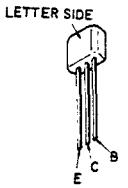




| OUTPUT VOLTAGE | AN79?? | PS79?? | uA79??UC | uPC79??H | MC79??CT |
|---|---|---|---|---|---|
| -2V | ------ | ------ | -------- | -------- | MC7902CT |
| -5V | AN7905 | PS7905 | uA7905UC | uPC7905H | MC7905CT |
| -5.2V | ------ | ------ | -------- | -------- | MC7905.2CT |
| -6V | AN7906 | ------ | uA7906UC | -------- | MC7906CT |
| -7V | AN7907 | ------ | -------- | -------- | -------- |
| -8V | AN7908 | ------ | uA7908UC | uPC7908H | MC7908CT |
| -9V | AN7909 | ------ | -------- | -------- | -------- |
| -10V | AN7910 | ------ | -------- | -------- | -------- |
| -12V | AN7912 | ------ | uA7912UC | uPC7912H | MC7912CT |
| -15V | AN7915 | ------ | uA7915UC | uPC7915H | MC7915CT |
| -18V | AN7918 | ------ | uA7918UC | uPC7918H | MC7918CT |
| -20V | AN7920 | ------ | -------- | -------- | -------- |
| -24V | AN7924 | ------ | uA7924UC | uPC7924H | MC7924CT |

2SA1048
2SA1115
2SC2458
2SC2603
2SC3327
2SC403SP
DTA124ES
DTA144ES
DTC124ES
DTC143TS
DTC144ES



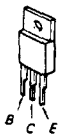

2SA1175
2SC2785




2SA1142
2SA1406
2SC3600



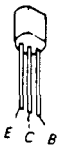

2SA473
2SB858
2SB860
2SB861
2SC1173
2SC3675
2SD1134
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2SA844
2SA933S
2SA1091
2SC1740
2SC1890A
2SC2551
2SC2878
2SC3068



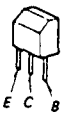

2SA893A
2SB740
2SD789



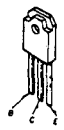

2SA979




2SB734
2SD774




2SC2555



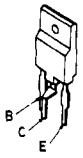

2SC2688
2SC2752
2SD669A




2SC2910



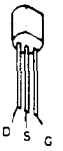

2SD1556




2SK381
2SK514



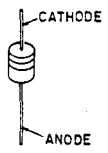

2SK523



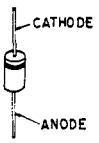

1T25




1SS119
1SS133T
1SS148
RD12ES-T1B1
RD12ES-T1B2
RD13ES-B
RD3.0ES-T1B2
RD4.3ES-T1B
RD6.2ES-T1B



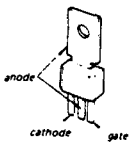

1SS83
1S1555
1S1585
1S2076
10E2
EQA02-06A
EQA02-07D
EQA02-08A
EQA02-10B
EQA02-11D
EQA02-14B
ERB44-06
ERD28-04S
ERD28-08S
GP08D
HZT33-02
HZ10EB3
HZ12EB2
HZ15EB3
HZ4.3EB1
HZ4.3EB2
HZ5.6EB2
HZ6.2EB1
HZ6.2EB2
HZ6.2EB3
HZ7.5EB3
HZ9.1EB2
HZ9.1EB3
RD10EB2
RD10EB3



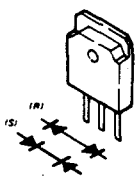

CR02AM-4
CR02AM-8




CR3CM-8

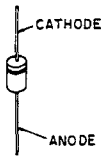



CTU-38R
CTU-38S

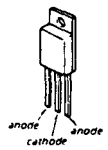



RD12E-B2
RD12EB1
RD12EB3
RD15E-B2
RD15EB3
RD3.0EB1
RD3.0EB2
RD3.9EB2
RD4.3EB1
RD4.3EB2
RD4.7EL1
RD4.7EL2
RD4.7EL3
RD5.6EB2
RD5.6ES-B
RD5.6ES-B1
RD5.6ES-B2
RD5.6ES-B3
RD6.2EB1
RD6.2EB2
RD6.2EB3
RD7.5EB2
RD7.5EB3
RD7.5ES-T1
RD8.2ES-T1B1
RD8.2ES-T1B2
RD8.2ES-T1B3
RD9.1EB1
RD9.1EB2
RD9.1EB3

ERB81-004
ERC24-04S
ERC24-06S
HZ12EB1
HZ12EB3
HZ3.0EB1
HZ3.0EB2
HZ3.9EB2
HZ9.1EB1
RH-1
RH-1A
RU-1A
RU-1C
SIB01-02



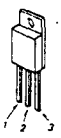

ESAC25-04C



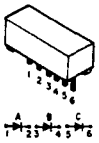

ESAC25-04N
ESAD25-04D



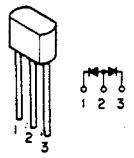
ESAC31-02D



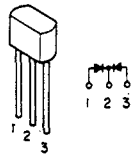
LT9010H



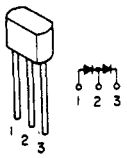
**MC911**



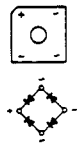

**MC921**



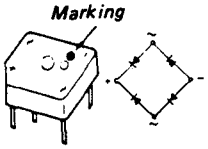

**MC931**



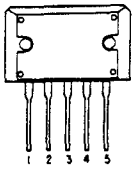

**RB406NH**



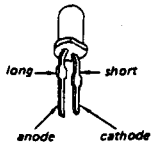
**S3WB60Z**



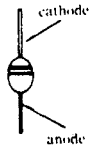

**STR8124**




**TLG124A**
**TLO124**
**TLR124**
**TLY124**




**U05G**
**V11N**

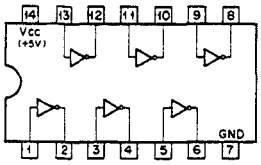


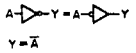

**μPC574J**



## (BVM-2010PD/PMD ONLY)

74F04PC (FSC)
TTL INVERTER
— TOP VIEW —

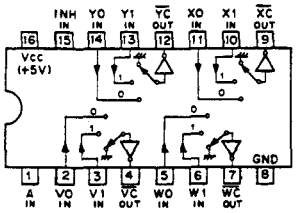


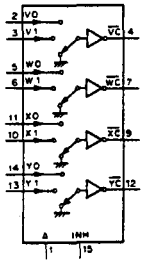




| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0: LOW LEVEL
1: HIGH LEVEL

74F158APC (FSC)
74F158PC (FSC)
MC74F158N (MOTOROLA)
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

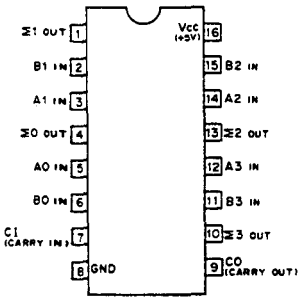


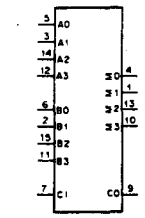




| CONT. IN | | ON CHANNEL |
|---|---|---|
| INH | A | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | GND |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

74F283PC (FSC)
TTL 4-BIT BINARY FULL ADDER
— TOP VIEW —

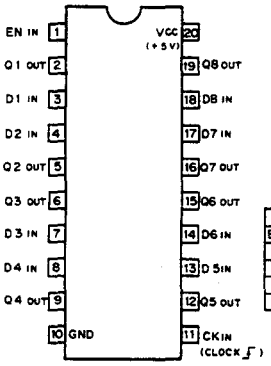


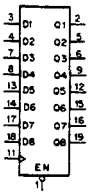




| | $2^4$ | $2^3$ | $2^2$ | $2^1$ | $2^0$ | |
|---|---|---|---|---|---|---|
| | | | | | CI | CARRY IN |
| | A3 | A2 | A1 | A0 | | DATA A IN |
| + | B3 | B2 | B1 | B0 | | DATA B IN |
| | CO | Σ3 | Σ2 | Σ1 | Σ0 | CARRY&SUM OUT |

| EX. | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 1 | CI |
| | 1 | 0 | 1 | 1 | A | |
| + | 1 | 0 | 1 | 0 | B | |
| | 1 | 0 | 1 | 1 | 0 | OUTPUTS |
| | CO | Σ3 | Σ2 | Σ1 | Σ0 | |

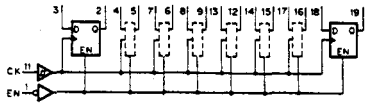
74F374PC (FSC)
TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP
— TOP VIEW —



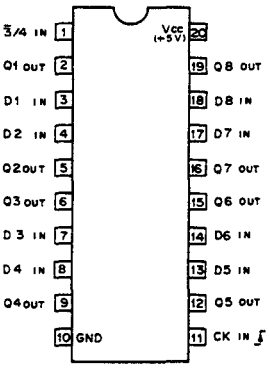



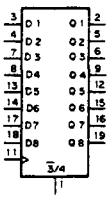

| INPUTS | | | OUT |
|---|---|---|---|
| EN | D | CK | Q |
| 0 | 1 | ∫ | 1 |
| 0 | 0 | ∫ | 0 |
| 0 | X | 0 | $Q_0$ |
| 1 | X | X | HI-Z |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE



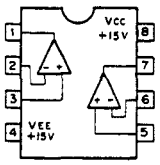

CX20160 (SONY)
TTL OCTAL 3 OR 4 STAGE SHIFT REGISTER
— TOP VIEW —



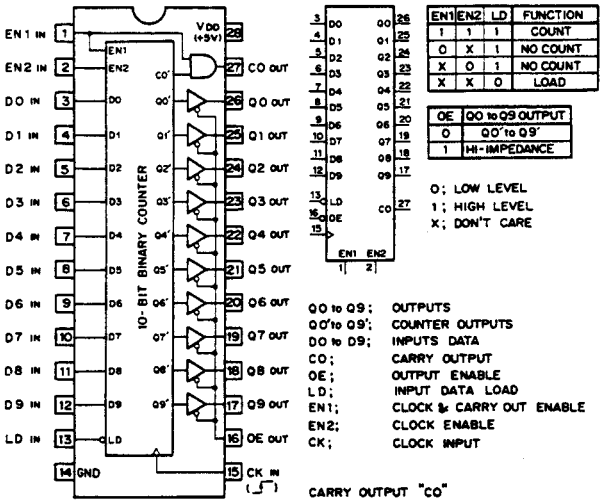

3/4; TOTAL STAGE SELECTION SIGNAL INPUT
H: 4 STAGES, L: 3 STAGES

CX20197 (SONY)
DUAL OPERATIONAL AMPLIFIER
— TOP VIEW —



## (BVM-2010PD/PMD ONLY)

CX23043 (SONY)
N-MOS SYNCHRONOUS 10-BIT BINARY COUNTER
— TOP VIEW —



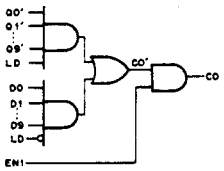

| EN1 | EN2 | LD | FUNCTION |
|---|---|---|---|
| 1 | 1 | 1 | COUNT |
| 0 | X | 1 | NO COUNT |
| X | 0 | 1 | NO COUNT |
| X | X | 0 | LOAD |

| OE | Q0 to Q9 OUTPUT |
|---|---|
| 0 | Q0' to Q9' |
| 1 | HI-IMPEDANCE |

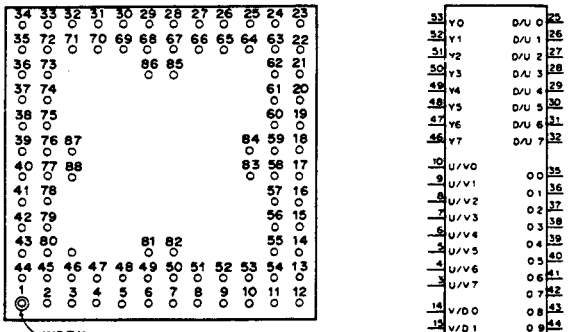
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

Q0 to Q9; OUTPUTS
Q0' to Q9'; COUNTER OUTPUTS
D0 to D9; INPUTS DATA
CO; CARRY OUTPUT
OE; OUTPUT ENABLE
LD; INPUT DATA LOAD
EN1; CLOCK & CARRY OUT ENABLE
EN2; CLOCK ENABLE
CK; CLOCK INPUT

CARRY OUTPUT "CO"

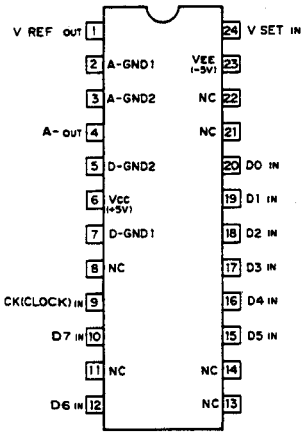


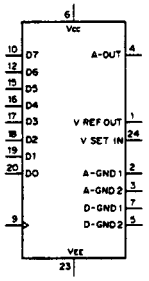

CXB1001G (SONY)
4:2:2 PARALLEL INTERFACE FOR 525/625-LINE DIGITAL VIDEO SIGNALS
— TOP VIEW —

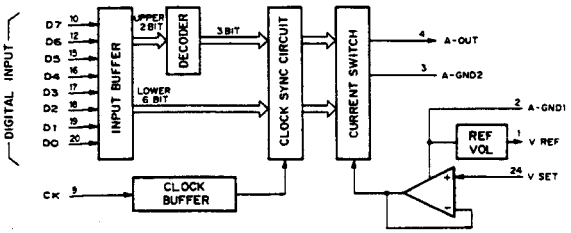



| PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | NC | 23 | O | BUS3 | 45 | O | OINH | 67 | I | CR3 |
| 2 | O | CKO | 24 | O | BUS5 | 46 | I/O | Y7 | 68 | I | CR2 |
| 3 | I/O | U/V7 | 25 | O | D/U0 | 47 | I/O | Y6 | 69 | I | TS1 |
| 4 | I/O | U/V6 | 26 | O | D/U1 | 48 | I/O | Y5 | 70 | O | BUS4 |
| 5 | I/O | U/V5 | 27 | O | D/U2 | 49 | I/O | Y4 | 71 | I | TS3 |
| 6 | I/O | U/V4 | 28 | O | D/U3 | 50 | I/O | Y3 | 72 | I | HD |
| 7 | I/O | U/V3 | 29 | O | D/U4 | 51 | I/O | Y2 | 73 | I | FD |
| 8 | I/O | U/V2 | 30 | O | D/U5 | 52 | I/O | Y1 | 74 | I | VD |
| 9 | I/O | U/V1 | 31 | O | D/U6 | 53 | I/O | Y0 | 75 | I | HF |
| 10 | I/O | U/V0 | 32 | O | D/U7 | 54 | O | OBIT | 76 | I | FF |
| 11 | O | BUS6 | 33 | O | CKI | 55 | I | E/D | 77 | I/O | H |
| 12 | O | BUS7 | 34 | O | OPN | 56 | I | IFH | 78 | I/O | F |
| 13 | O | BUS8 | 35 | O | 00 | 57 | I | CR5 | 79 | O | V |
| 14 | I | V/D0 | 36 | O | 01 | 58 | I | 27M | 80 | I | IG |
| 15 | I | V/D1 | 37 | O | 02 | 59 | I | CR1 | 81 | | Vcc(+5V) |
| 16 | I | V/D2 | 38 | O | 03 | 60 | I | TS2 | 82 | | Vcc(+5V) |
| 17 | I | V/D3 | 39 | O | 04 | 61 | O | HCK | 83 | | GND |
| 18 | I | V/D4 | 40 | O | 05 | 62 | I | TS4 | 84 | | GND |
| 19 | I | V/D5 | 41 | O | 06 | 63 | I/O | 6/13 | 85 | | Vcc(+5V) |
| 20 | I | V/D6 | 42 | O | 07 | 64 | O | BUS9 | 86 | | Vcc(+5V) |
| 21 | I | V/D7 | 43 | O | 08 | 65 | I | SEL | 87 | | GND |
| 22 | O | BUS2 | 44 | O | 09 | 66 | I | CR4 | 88 | | GND |

CXA1106P (SONY)
8-BIT D/A CONVERTER (TTL INPUT)
— TOP VIEW —



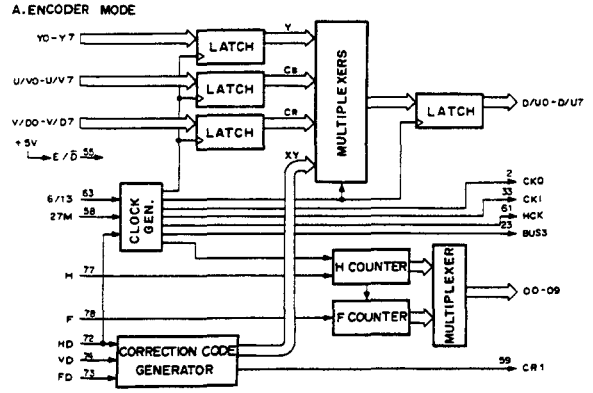



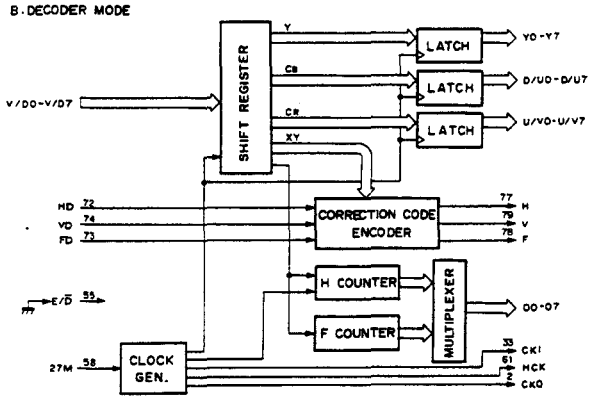

| SYMBOL | FUNCTION | |
|---|---|---|
| | ENCODER MODE (E/D="H") | DECODER MODE (E/D="L") |
| Y0-Y7 | Y SIGNAL INPUTS | Y SIGNAL OUTPUTS |
| U/V0-U/V7 | Cs SIGNAL INPUTS | Cs SIGNAL OUTPUTS |
| V/D0-V/D7 | Cs SIGNAL INPUTS | MULTIPLICATOR DATA INPUTS |
| D/U0-D/U7 | MULTIPLICATOR DATA OUTPUTS | Cs SIGNAL OUTPUTS |
| 00-09 | EXTERNAL PROM ADDRESS OUTPUTS | |
| E/D | ENCODER/DECODER MODE SELECT INPUT | |
| 27M | CLOCK INPUT (27MHz) | |
| HD | TIMING SIGNAL INPUTS (H) | |
| FD | TIMING SIGNAL INPUTS (F) | |
| VD | TIMING SIGNAL INPUTS (V) | |
| CKO | D/U SYNCHRONOUS CLOCK OUTPUT | Cs,Cs SYNCHRONOUS CLOCK OUTPUT |
| CKI | INPUT DATA LATCH CLOCK(3.5MHz) | INPUT DATA LATCH CLOCK (27MHz) |
| 6/13 | Cs,Cs SYNCHRONOUS CLOCK INPUT | 13.5MHz CLOCK OUTPUT |
| H | REFERENCE H INPUT | DECODE H OUTPUT |
| F | REFERENCE F INPUT | DECODE F OUTPUT |
| V | DECODE V OUTPUT | DECODE V OUTPUT |
| IFH | CONNECT WITH "+5V" | |
| HCK | 6.75MHz H COUNTER CLOCK OUTPUT | |
| SEL | CONNECT WITH "+5V" | |
| HF | | |
| FF | | |
| IG | | |
| CR1-CR5 | | |
| TS1-TS4 | | |
| OPN | FOR TEST | |
| OINH | | |
| OBIT | | |
| BUS2-BUS9 | | |

## (BVM-2010PD/PMD ONLY)

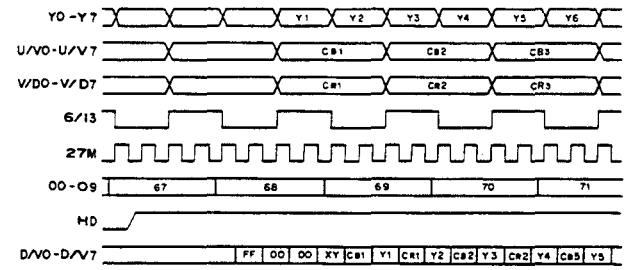
BLOCK DIAGRAMS
A. ENCODER MODE



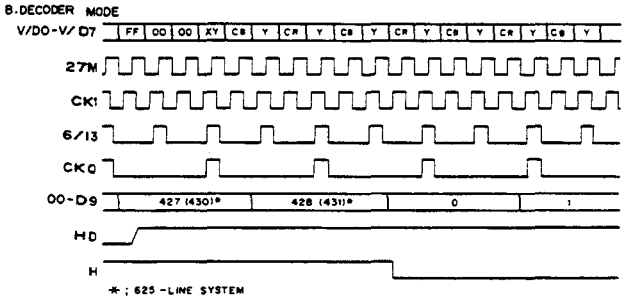

B. DECODER MODE




TIMING CHART
A. ENCODER MODE

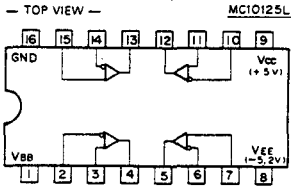



B. DECODER MODE

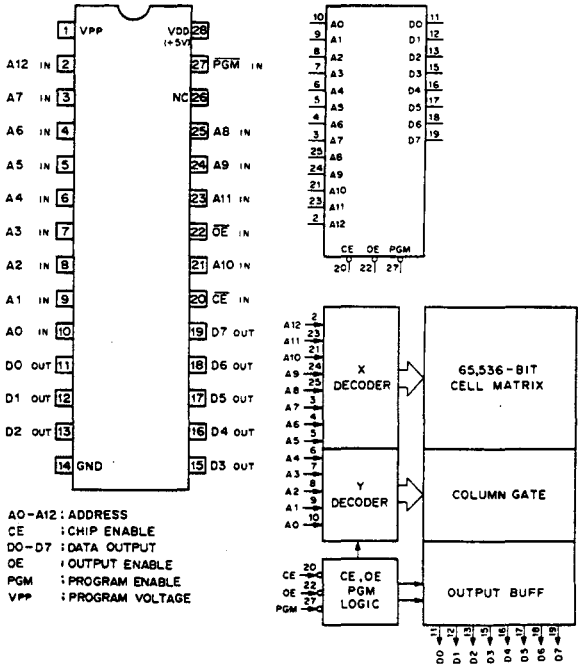



*; 625-LINE SYSTEM

HD10125 (HITACHI)
MC10125L (MOTOROLA)
ECL ECL-TO-TTL TRANSLATOR
— TOP VIEW —




HN17C64G-20 (HITACHI)
MBM27C64-25 (FUJITSU) (ACCESS TIME = 250 nS)
C-MOS 64K (8K-8) ERASABLE PROM WITH 3-STATE OUTPUTS
— TOP VIEW —



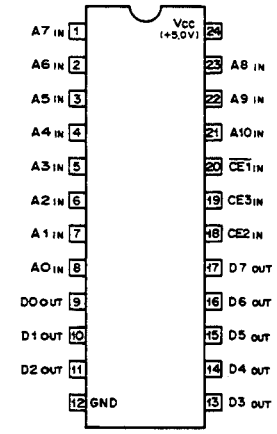

A0-A12 : ADDRESS
CE : CHIP ENABLE
D0-D7 : DATA OUTPUT
OE : OUTPUT ENABLE
PGM : PROGRAM ENABLE
VPP : PROGRAM VOLTAGE

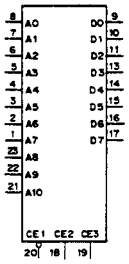
| An | CE | OE | PGM | VPP | Dn | FUNCTION |
|---|---|---|---|---|---|---|
| An | 0 | 0 | 1 | +5V | D OUT | READ |
| An | 0 | 1 | 1 | +5V | HI-Z | OUTPUT DISABLE |
| An | 0 | 0 | 0 | +5V | HI-Z | OUTPUT DISABLE |
| X | 1 | X | X | +5V | HI-Z | STANDBY |
| An | 0 | X | ⎍ | +21V | DIN | PGM |
| An | 0 | 0 | 1 | +21V | D OUT | PGM VERIFY |
| X | 1 | X | X | +21V | HI-Z | PGM INH |

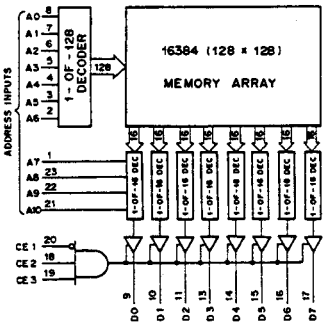
0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE

## (BVM-2010PD/PMD ONLY)

MB7138HSK (FUJITSU) (ACCESS TIME = 45 nS)
16384-BIT (2048x8) PROM WITH 3-STATE OUTPUTS
— TOP VIEW —



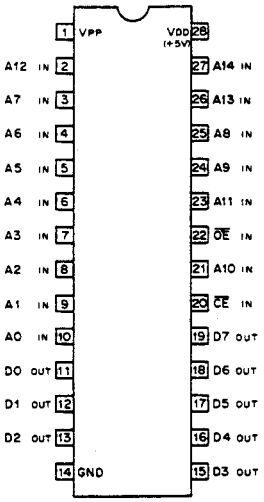



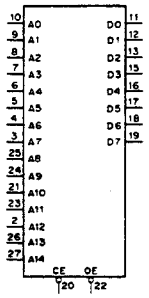



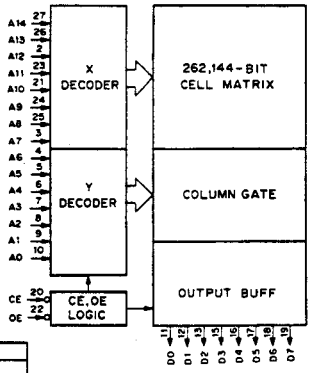

| CHIP SEL | | | OUTPUT |
|---|---|---|---|
| CE1 | CE2 | CE3 | |
| 0 | 1 | 1 | ENABLE |
| 1 | 0 | X | HI-IMPEDANCE |
| 1 | X | 0 | |

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MBM27C256-25 (FUJITSU) (ACCESS TIME = 250 nS)
C-MOS 256K (32K-8) ERASABLE PROM WITH 3-STATE OUTPUTS
— TOP VIEW —




AO-A12 : ADDRESS
CE : CHIP ENABLE
DO-D7 : DATA OUTPUT
OE : OUTPUT ENABLE
VPP ; PROGRAM POWER SUPPLY

| An | CE | OE | Vpp | Dn | FUNCTION |
|---|---|---|---|---|---|
| An | 0 | 0 | +5V | D OUT | READ |
| An | 0 | 1 | +5V | HI-Z | OUTPUT DISABLE |
| X | 1 | X | +5V | HI-Z | STANDBY |
| An | 0 | 1 | +21V | DIN | PGM |
| An | 0 | 0 | +21V | D OUT | PGM VERIFY |
| X | 1 | X | +21V | HI-Z | PGM INH |

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

WORD / ADDRESS TABLE

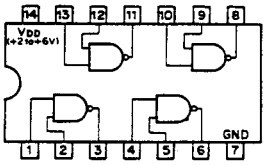
| WORD | ADDRESS INPUT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A0 | A9 | A8 | A7 | A6 | A5 | A4 | A3 | A2 | A1 | A0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |
| 2045 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| 2046 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 2047 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

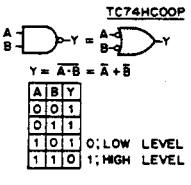
DATA CODE / ACTUAL DATA

| DATA CODE | | ACTUAL DATA | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | D7 | D6 | D5 | D4 | D3 | D2 | D1 | D0 |
| 0 | 00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 01 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2 | 02 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |
| 8 | 08 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 9 | 09 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 10 | 0A | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 11 | 0B | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 12 | 0C | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 13 | 0D | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 14 | 0E | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 15 | 0F | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 16 | 10 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 17 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |
| 238 | EE | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 239 | EF | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| 240 | F0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 241 | F1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 |
| 242 | F2 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |
| 248 | F8 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 249 | F9 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| 250 | FA | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 251 | FB | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| 252 | FC | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 253 | FD | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| 254 | FE | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 255 | FF | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

IN HEXADECIMAL
IN DECIMAL

TC74HC00P (TOSHIBA)
C-MOS 2-INPUT NAND GATE
— TOP VIEW —



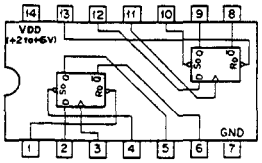




| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0 ; LOW LEVEL
1 ; HIGH LEVEL

## (BVM-2010PD/PMD ONLY)

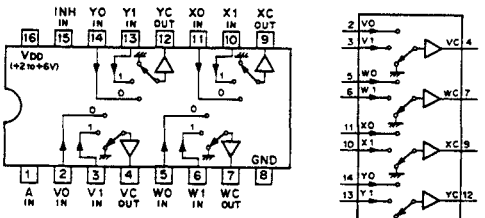
MC74HC74N (MOTOROLA)
TC74HC74P (TOSHIBA)
C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET
— TOP VIEW —




| INPUTS | | | | OUTPUTS | |
|---|---|---|---|---|---|
| Sp | RD | CK | D | Qn+1 | Qn+1 |
| 0 | 1 | X | X | 1 | 0 |
| 1 | 0 | X | X | 0 | 1 |
| 0 | 0 | X | X | 1* | 1* |
| 1 | 1 | ↓ | 1 | 1 | 0 |
| 1 | 1 | ↓ | 0 | 0 | 1 |
| 1 | 1 | 0 | X | Qn | Qn |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
1*; NONSTABLE

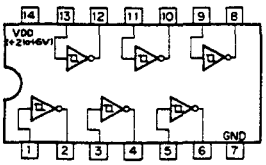
TC74HC157P (TOSHIBA)
C-MOS 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

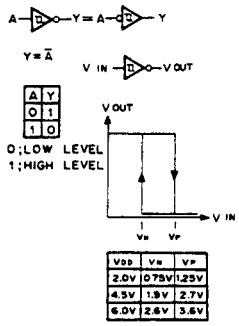



| CONT. IN | | ON CHANNEL |
|---|---|---|
| INH | A | |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | X | GND |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

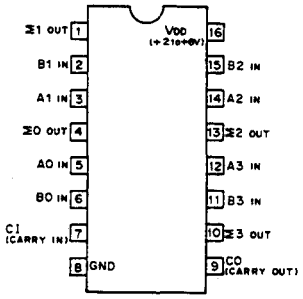
TC74HC14P (TOSHIBA)
C-MOS SCHMITT TRIGGER INVERTER
— TOP VIEW —

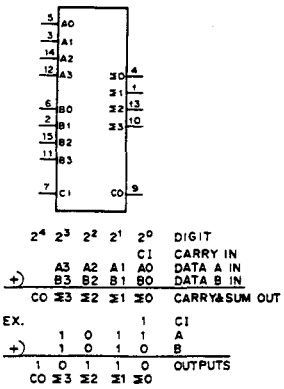


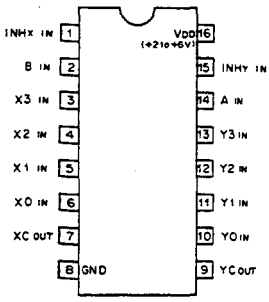

| VDD | VH | VL |
|---|---|---|
| 2.0V | 0.75V | 1.25V |
| 4.5V | 1.9V | 2.7V |
| 6.0V | 2.6V | 3.6V |

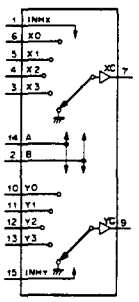
TC74HC283P (TOSHIBA)
C-MOS 4-BIT FULL ADDER
— TOP VIEW —




TC74HC153P (TOSHIBA)
C-MOS 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
— TOP VIEW —

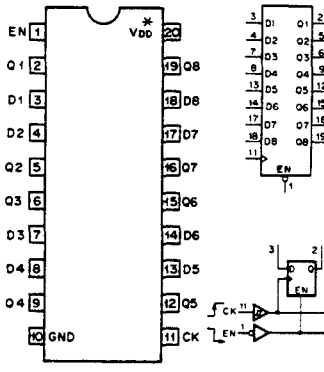



| CONTROL IN | | | ON CHANNEL |
|---|---|---|---|
| INH | B | A | |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 2 |
| 0 | 1 | 1 | 3 |
| 1 | X | X | GND |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

TC74HC374P (TOSHIBA)
C-MOS 3-STATE OCTAL D-TYPE FLIP-FLOP
— TOP VIEW —

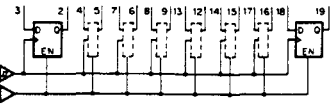






| INPUTS | | | OUT |
|---|---|---|---|
| EN | D | CK | Q |
| 0 | 1 | ↑ | 1 |
| 0 | 0 | ↑ | 0 |
| 0 | X | 0 | Q0 |
| 1 | X | X | HI-Z |

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
HI-Z; HIGH IMPEDANCE




*VDD HC; +2to+6V
HCT; +5V

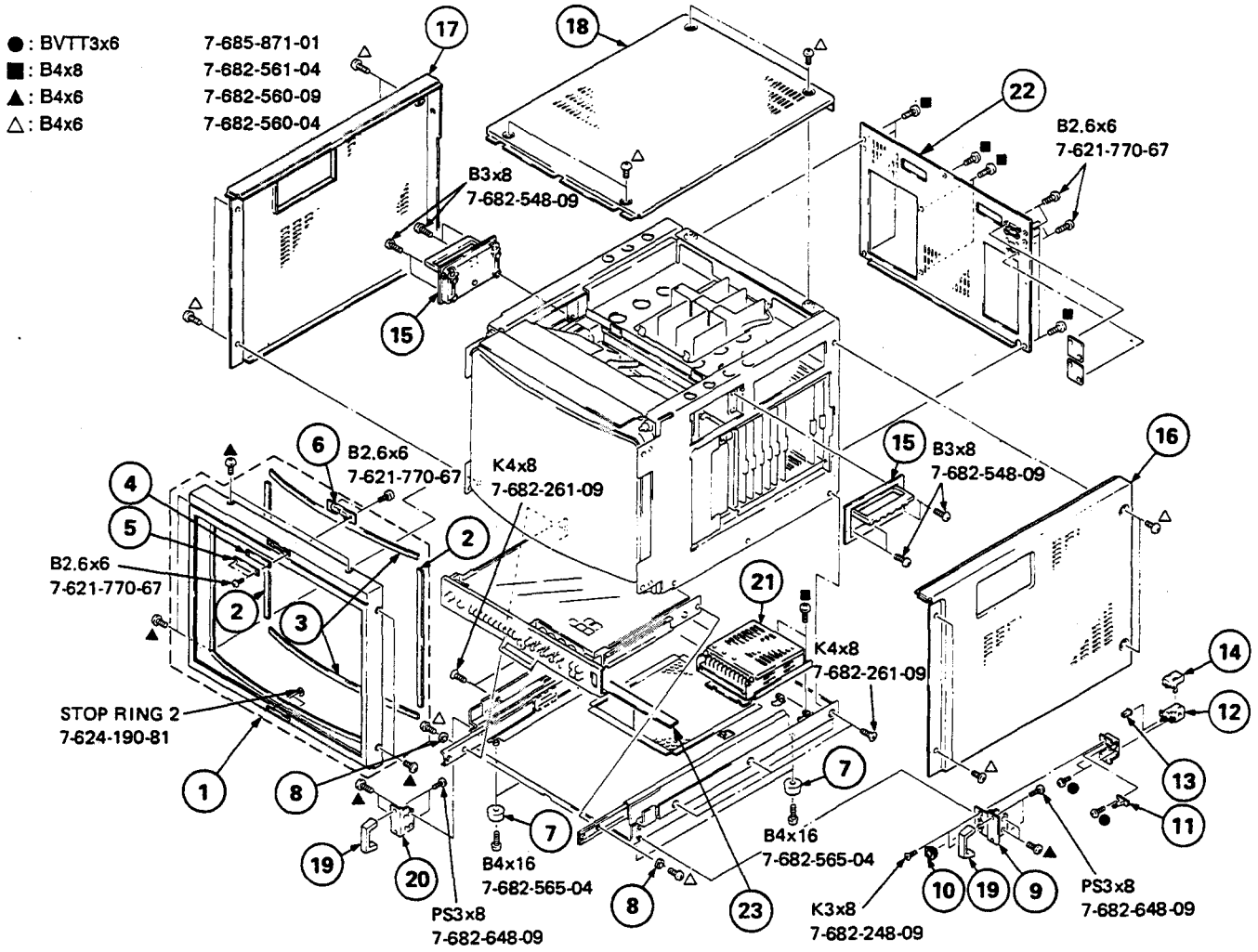
# SECTION 6
# EXPLODED VIEWS

**NOTE:**

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

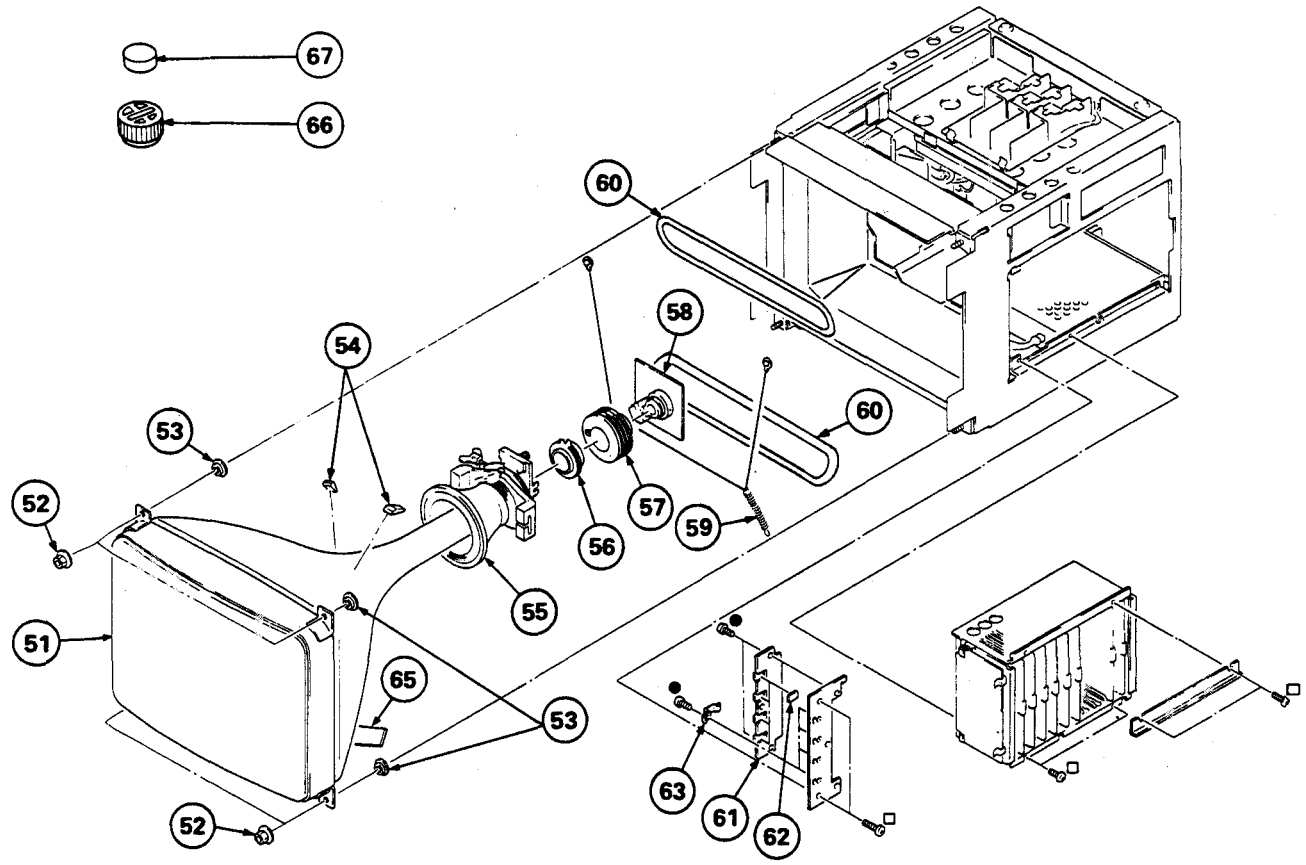
## 6-1. BEZEL AND COVERS




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | X-4379-412-1 | BEZEL ASSY | 2, 3 |
| 2 | 4-308-878-XX | CUSHION (B), BEZEL | |
| 3 | 4-308-878-XX | CUSHION (A), CRT | |
| 4 | *4-386-839-01 | PLATE, TALLY | |
| 5 | *4-386-840-01 | PLATE (B), TALLY | |
| 6 | *1-623-002-11 | XB BOARD | |
| 7 | X-4836-202-9 | FOOT | |
| 8 | *4-379-499-01 | SPACER | |
| 9 | *X-4379-408-1 | PANEL ASSY, POWER SWITCH | |
| 10 | 4-379-423-01 | ESCUTCHEON (A) | |
| 11 | *1-617-893-11 | Y BOARD | |
| 12 | ⚠ 1-570-052-12 | SWITCH, PUSH (AC POWER) (1 KEY) | |
| 13 | 4-374-839-11 | BUTTON (A) | |
| 14 | 4-373-038-01 | COVER, SWITCH, POWER | |
| 15 | X-3642-018-0 | HANDLE ASSY | |
| 16 | *4-386-832-01 | COVER (RIGHT) | |
| 17 | *4-386-833-01 | COVER (LEFT) | |
| 18 | *4-386-831-01 | COVER (UPPER) | |
| 19 | *4-353-706-00 | HANDLE | |
| 20 | *4-386-808-01 | BRACKET (LEFT), HANDLE | |
| 21 | ⚠ 1-413-319-11 | REGULATOR, SWITCHING (GSK 20-1205) (BVM-2010PD/PMD ONLY) | |
| 22 | *4-386-811-03 | COVER, REAR (BVM-2010P/PM ONLY) | |
| | *4-386-866-01 | COVER, REAR (BVM-2010PD/PMD ONLY) | |
| 23 | 4-372-556-01 | SHEET, BLOTTING | |

## 6-2. PICTURE TUBE

● : BVTT3x6 7-685-871-01
□ : B3x10 7-682-549-04

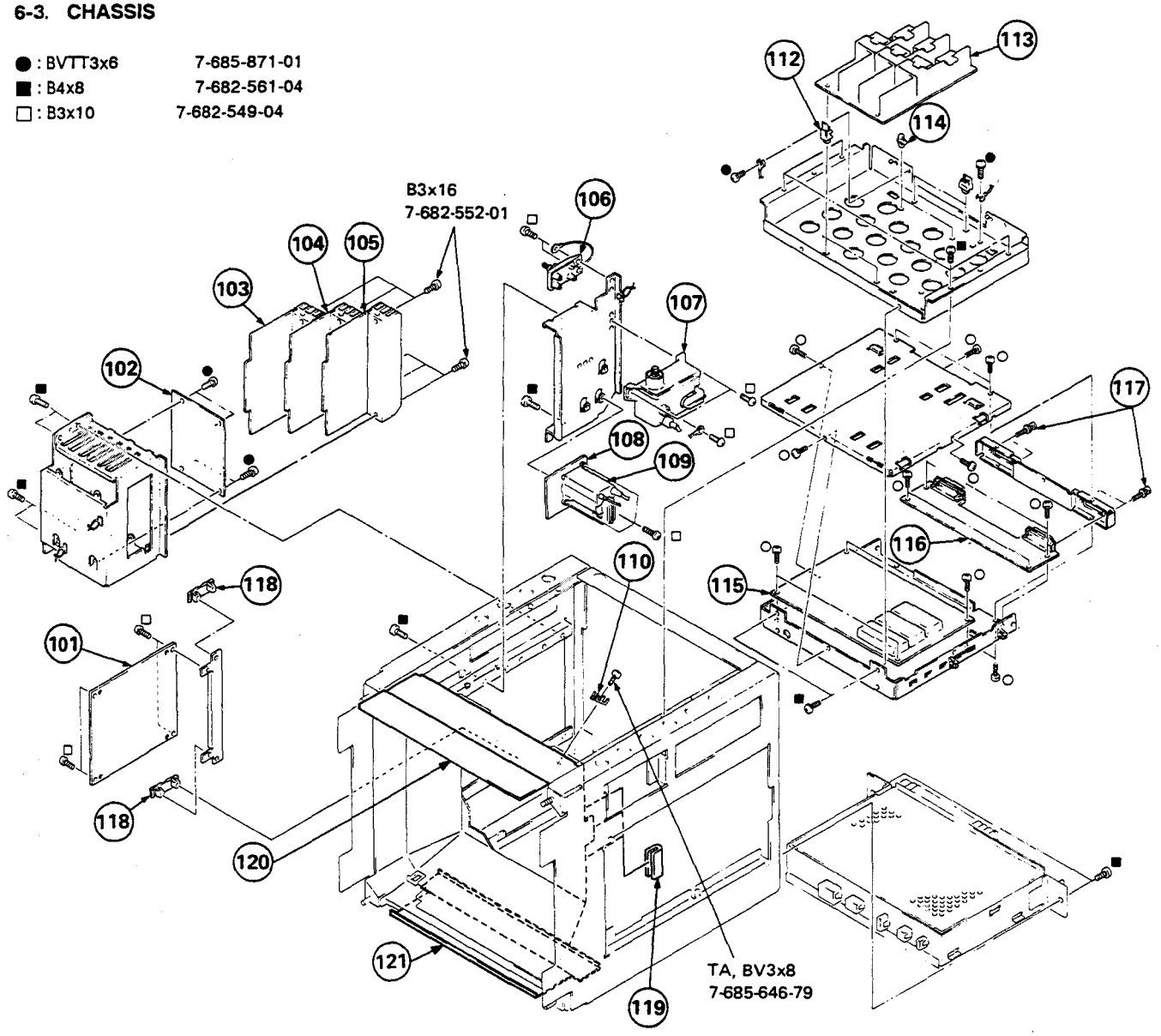



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | ⚠ 8-733-054-05 | PICTURE TUBE (M49JJP21X) | |
| 52 | 4-306-034-00 | FLANGE NUT, (B) 5MM | |
| 53 | 4-348-567-00 | WASHER, CRT POSITION | |
| 54 | 3-703-961-01 | SPACER, DY | |
| 55 | ⚠ 1-451-287-21 | DEFLECTION YOKE (Y14FAA) | |
| 56 | ⚠ 1-452-261-22 | CRT NECK ASSY (326) | |
| 57 | ⚠ 1-452-117-31 | CRT NECK ASSY | |
| 58 | ⋆1-617-889-11 | C BOARD | |
| 59 | 4-303-774-XX | SPRING | |
| 60 | ⚠ 1-426-328-11 | COIL, DEGAUSSING | |
| 61 | ⋆1-617-885-11 | GC BOARD | |
| 62 | 4-370-970-01 | SPACER, TR | |
| 63 | ⋆4-363-404-00 | HOLDER, IC | |
| 65 | 3-831-441-11 | CLOTH, BLOTTING | |
| 66 | 1-452-094-00 | MAGNET, ROTATABLE DISK; 15MMφ | |
| 67 | 1-452-032-00 | MAGNET, DISK; 10MMφ | |

## 6-3. CHASSIS

● : BVTT3x6 7-685-871-01
■ : B4x8 7-682-561-04
□ : B3x10 7-682-549-04



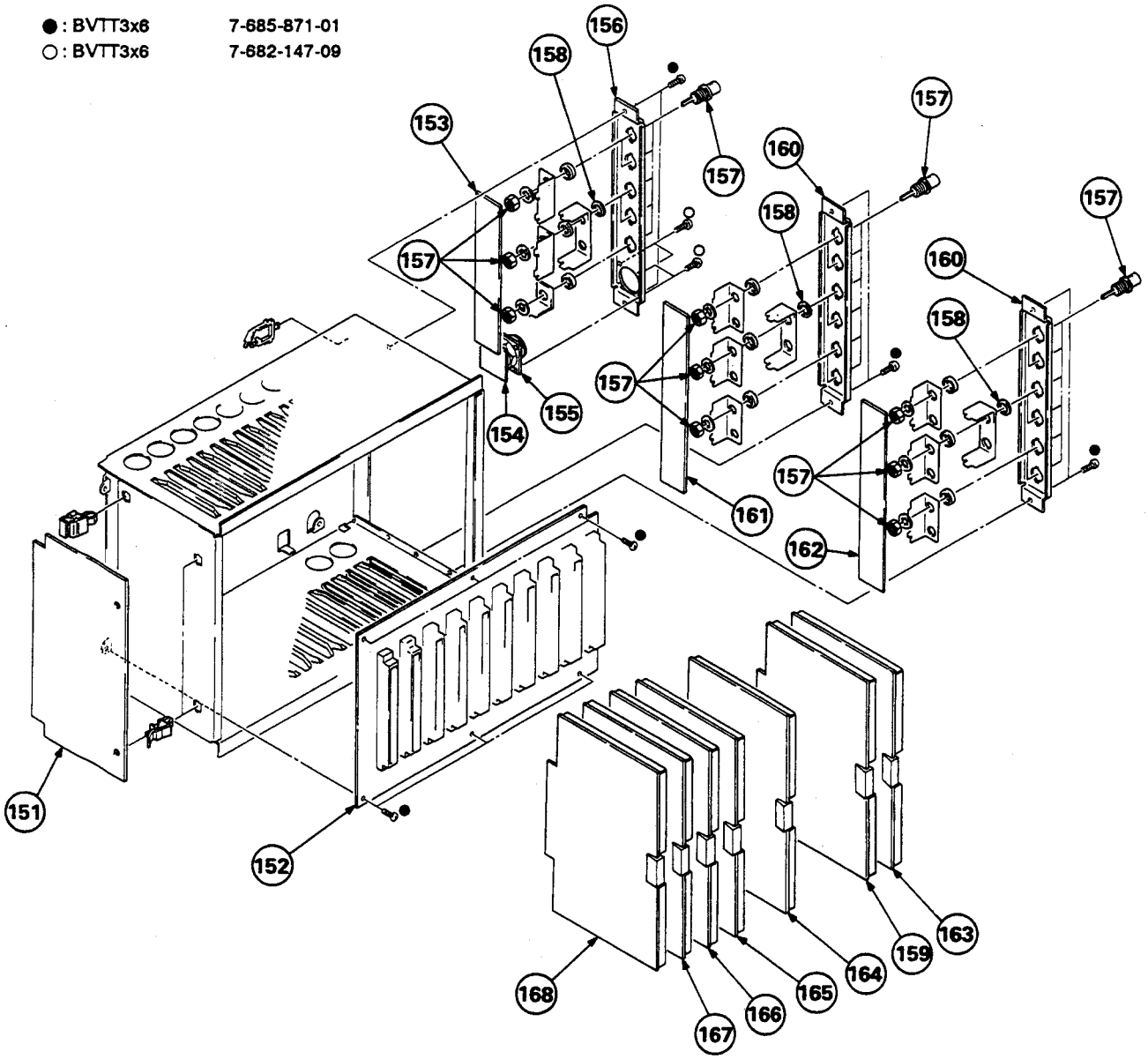

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | *A-1345-732-A | DB BOARD, COMPLETE | |
| 102 | *1-617-898-11 | TA BOARD | |
| 103 | *A-1345-730-A | EA BOARD, COMPLETE | |
| 104 | *A-1345-731-A | EB BOARD, COMPLETE | |
| 105 | *A-1394-128-A | PA BOARD, COMPLETE | |
| 106 | ⚠ 1-237-165-11 | RESISTOR ASSY, HIGH-VOLTAGE | |
| 107 | ⚠ 1-453-103-31 | HIGH-VOLTAGE BLOCK | |
| 108 | *1-617-891-11 | PB BOARD | |
| 109 | ⚠ 1-439-382-21 | TRANSFORMER ASSY, FLYBACK | |
| 110 | *4-309-624-00 | TERMINAL, EARTH | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 112 | *3-703-141-00 | HOLDER, PCB | |
| 113 | *A-1135-464-A | BK BOARD, COMPLETE | |
| 114 | *3-670-570-11 | SPACERR, SUPPORT | |
| 115 | *A-1275-088-A | QD BOARD, COMPLETE (BVM-2010PD/PMD ONLY) | |
| 116 | *1-623-851-11 | QE BOARD (BVM-2010PD/PMD ONLY) | |
| 117 | 2-133-531-01 | SCREW, CONNECTOR (BVM-2010PD/PMD ONLY) | |
| 118 | *4-313-732-00 | CLIP, HINGE, CIRCUIT BOARD | |
| 119 | *4-911-234-01 | EDGING | |
| 120 | *4-386-819-02 | STAY, FRONT | |
| 121 | *4-391-234-03 | STAY, UNDER | |

## 6-4. SIGNAL BLOCK

● : BVTT3x6 7-685-871-01
○ : BVTT3x6 7-682-147-09

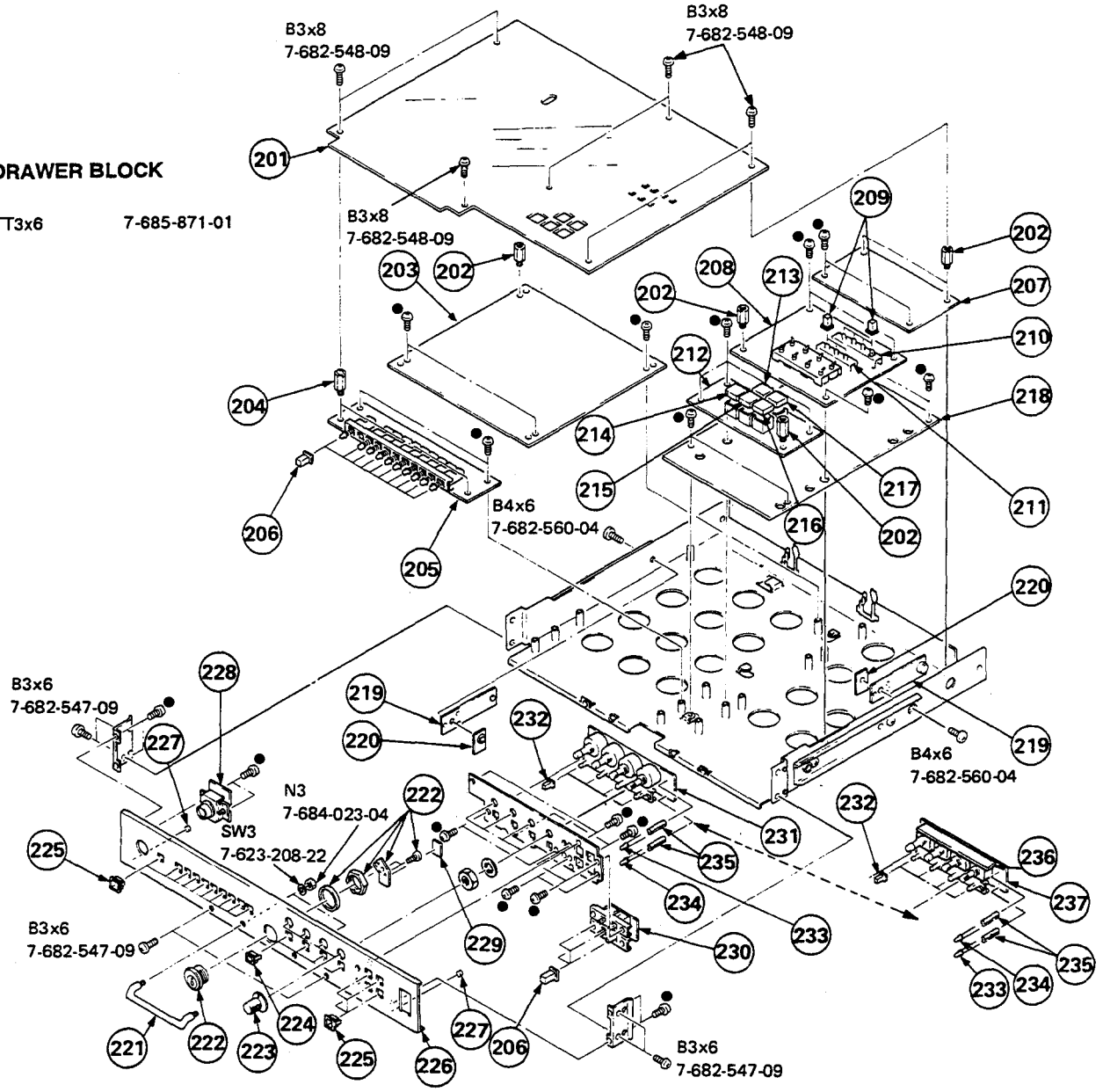





| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | *A-1285-072-A | RB BOARD, COMPLETE | |
| 152 | *1-617-899-11 | TB BOARD | |
| 153 | *1-617-897-11 | W BOARD | |
| 154 | *1-617-896-11 | V BOARD | |
| 155 | 1-563-265-11 | CONNECTOR, MULTIPLE 10P | |
| 156 | *4-379-440-01 | PANEL (B), CONNECTOR | |
| 157 | 1-565-791-11 | CONNECTOR, BNC 1P | |
| 158 | *4-379-404-01 | INSULATOR, BNC | |
| 159 | *A-1135-472-A | BR BOARD, COMPLETE (BVM-2010PD/PMD ONLY) | |
| 160 | *4-379-439-01 | PANEL (A), CONNECTOR | |
| 161 | *1-618-786-11 | QB BOARD | |
| 162 | *1-617-895-11 | QA BOARD | |
| 163 | *A-1135-355-A | BA BOARD, COMPLETE | |
| 164 | *A-1135-391-A | BD BOARD, COMPLETE (BVM-2010P/PD ONLY) | |
| | *A-1135-424-A | BM BOARD, COMPLETE (BVM-2010PM/PMD ONLY) | |
| 165 | *A-1135-358-A | BG BOARD, COMPLETE | |
| 166 | *A-1135-359-A | BH BOARD, COMPLETE | |
| 167 | *A-1135-360-A | BI BOARD, COMPLETE | |
| 168 | *A-1135-361-A | BJ BOARD, COMPLETE | |

## 6-5. DRAWER BLOCK

● : BVTT3x6 7-685-871-01

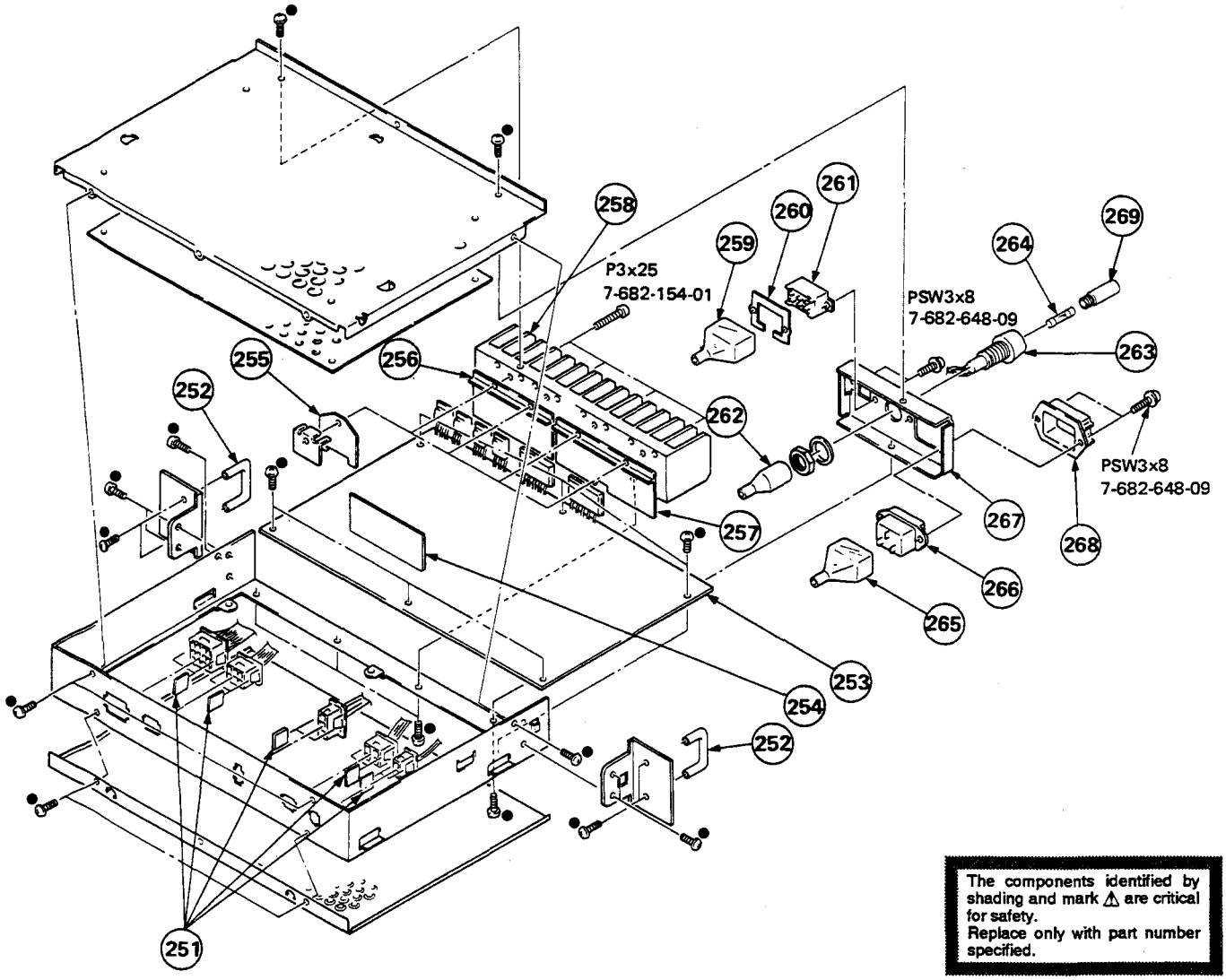



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | *4-386-845-01 | COVER, PC BOARD | |
| 202 | *2-264-136-00 | SUPPORT, SWITCH, PUSH BUTTON | |
| 203 | *A-1345-736-A | DA BOARD, COMPLETE | |
| 204 | 3-897-313-01 | BOSS (17.2), RELAY | |
| 205 | *1-617-890-11 | HA BOARD | |
| 206 | 4-374-839-01 | BUTTON (A) | |
| 207 | *A-1340-989-A | DC BOARD, COMPLETE | |
| 208 | *1-617-886-11 | HB BOARD | |
| 209 | 4-369-627-11 | PUSH BUTTON | |
| 210 | 1-570-568-11 | SWITCH, PUSH (4 KEY) | |
| 211 | 1-570-569-11 | SWITCH, PUSH (3 KEY) | |
| 212 | *1-618-814-11 | HE BOARD | |
| 213 | 4-379-004-01 | KEY TOP | |
| 214 | 4-379-004-11 | KEY TOP | |
| 215 | 4-379-004-41 | KEY TOP | |
| 216 | 4-379-004-31 | KEY TOP | |
| 217 | 4-379-004-21 | KEY TOP | |
| 218 | *A-1285-073-A | RA BOARD, COMPLETE | |
| 219 | *X-4379-407-1 | STOPPER ASSY | |
| 220 | *4-386-844-01 | NUT, PLATE | |
| 221 | 4-386-802-01 | HANDLE, DRAWER | |
| 222 | 4-378-917-01 | LOCK, CYLINDER | |
| 223 | X-3673-635-0 | KNOB (1) ASSY, CONTROL | |
| 224 | 4-379-424-01 | ESCUTCHEON (B) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 225 | 4-379-423-01 | ESCUTCHEON (A) | |
| 226 | 4-386-822-01 | PANEL, CONTROL | |
| 227 | *4-911-672-01 | FELT, COVER | |
| 228 | *1-623-001-11 | HF BOARD | |
| 229 | 4-337-209-11 | PROTECTOR, SCRATCH | |
| 230 | *1-617-887-11 | HC BOARD | |
| 231 | *1-617-888-11 | HD BOARD<br>(Serial No. Up to 2,001,080 BVM-2010P ONLY)<br>(Serial No. Up to 2,000,041 BVM-2010PD ONLY)<br>(Serial No. Up to 2,000,003 BVM-2010PM ONLY) | |
| 232 | 4-379-422-01 | BUTTON (B) | |
| 233 | 8-719-812-41 | DIODE TLR124 | |
| 234 | 8-719-938-68 | TLY124 | |
| 235 | *4-026-910-00 | HOLDER, LED | |
| 236 | 1-627-682-11 | HH BOARD<br>(Serial No. 2,001,081 and Higher BVM-2010P ONLY)<br>(Serial No. 2,000,004 and Higher BVM-2010PM ONLY)<br>(Serial No. 2,000,042 and Higher BVM-2010PD ONLY)<br>(Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |
| 237 | 1-627-681-11 | HG BOARD<br>(Serial No. 2,001,081 and Higher BVM-2010P ONLY)<br>(Serial No. 2,000,004 and Higher BVM-2010PM ONLY)<br>(Serial No. 2,000,042 and Higher BVM-2010PD ONLY)<br>(Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |

## 6-6. POWER BLOCK

● : BVTT3x6 7-685-871-01




The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | 3-675-469-00 | SPACER, SOLENOID | |
| 252 | 4-379-421-01 | HANDLE, DRAWER | |
| 253 | *A-1316-048-A | GA BOARD, COMPLETE (BVM-2010PM/PMD ONLY) | |
| | *A-1316-056-A | GA BOARD, COMPLETE (BVM-2010P/PD ONLY) | |
| 254 | *1-617-884-11 | GB BOARD | |
| 255 | *4-379-408-01 | INSULATOR (G3) | |
| 256 | 4-379-410-01 | SPACER (G2), POLISHING | |
| 257 | 4-379-403-01 | SPACER (G1), POLISHING | |
| 258 | *4-347-706-00 | HEAT SINK (TR) | |
| 259 | *4-371-879-02 | COVER, AC SELECT | |
| 260 | *4-379-409-01 | NUT, PLATE | |
| 261 | ⚠ 1-570-173-22 | SWITCH, SLIDE (VOLTAGE CHANGE) | |
| 262 | *4-393-031-01 | COVER, FUSE HOLDER | |
| 263 | 1-533-167-21 | HOLDER, FUSE | |
| | | (Serial No. 2,000,831 and Higher BVM-2010P ONLY) | |
| | | (Serial No. 2,000,004 and Higher BVM-2010PM ONLY) | |
| | | (Serial No. 2,000,040 and Higher BVM-2010PD ONLY) | |
| | | (Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |
| 264 | ⚠ 1-532-203-11 | FUSE, TIME-LAG 2A/250V (BVM-2010P/PD ONLY) | |
| | ⚠ 1-532-746-11 | FUSE, GLASS TUBE 4A/125V (BVM-2010PM/PMD ONLY) | |
| 265 | 4-601-466-11 | COVER, 3P INLET | |
| 266 | ⚠*1-580-375-11 | INLET 3P | |
| 267 | *4-379-430-03 | PANEL, POWER | |
| | | (Serial No. 2,000,831 and Higher BVM-2010P ONLY) | |
| | | (Serial No. 2,000,004 and Higher BVM-2010PM ONLY) | |
| | | (Serial No. 2,000,040 and Higher BVM-2010PD ONLY) | |
| | | (Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |
| 268 | *2-990-241-01 | HOLDER (A), PLUG | |
| | | (Serial No. 2,000,831 and Higher BVM-2010P ONLY) | |
| | | (Serial No. 2,000,004 and Higher BVM-2010PM ONLY) | |
| | | (Serial No. 2,000,040 and Higher BVM-2010PD ONLY) | |
| | | (Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |
| 269 | 1-533-168-21 | HOLDER, FUSE | |
| | | (Serial No. 2,000,831 and Higher BVM-2010P ONLY) | |
| | | (Serial No. 2,000,004 and Higher BVM-2010PM ONLY) | |
| | | (Serial No. 2,000,040 and Higher BVM-2010PD ONLY) | |
| | | (Serial No. 2,000,001 and Higher BVM-2010PMD ONLY) | |

# SECTION 7
# ELECTRICAL PARTS LIST

BA

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- The components identified by ⚠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- ✱ : Selected to yield optimum performance.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | *A-1135-355-A | BA BOARD, COMPLETE | | | |
| | | ********** | | | |
| | *4-353-708-00 | HOOK, FINGER | | | |
| | 7-682-547-04 | SCREW BVTT 3X6 (S) | | | |
| | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |
| | | CONNECTOR | | | |
| BA1 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| BA2 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| BA3 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| BA4 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| BA5 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| BA6 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| | | CAPACITOR | | | |
| C1 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C2 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C3 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C4 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C5 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C6 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C7 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C8 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C9 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C10 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C11 | 1-124-119-00 | ELECT | 330MF | 20% | 16V |
| C12 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C13 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C14 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C15 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C16 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C17 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C18 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C19 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C20 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C21 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C31 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C32 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C33 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C34 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C35 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C36 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C37 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C38 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C39 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C51 | 1-124-119-00 | ELECT | 330MF | 20% | 16V |
| C52 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C53 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C54 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C55 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C56 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C57 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C71 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C72 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C73 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C74 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C75 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C76 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C77 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C101 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C102 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C103 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C104 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C201 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C202 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C203 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C204 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C301 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C302 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C303 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C304 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C305 | 1-102-947-00 | CERAMIC | 10PF | 0.5PF | 50V |
| C306 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C401 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C402 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C403 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C404 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C501 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C502 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C503 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C504 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C601 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C602 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C603 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C604 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C701 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C702 | 1-102-947-00 | CERAMIC | 10PF | 0.5PF | 50V |
| C703 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C704 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C705 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C706 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C707 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C708 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C709 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C710 | 1-130-481-00 | MYLAR | 0.0068MF | 5% | 50V |
| C711 | 1-136-155-00 | FILM | 0.015MF | 5% | 50V |
| C712 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C713 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C714 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C715 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C716 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C717 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| | | TRIMMER | | | |
| CV101 | 1-141-179-12 | CAP, VAR, TRIMMER | | | |
| CV102 | 1-141-260-21 | TRIMAR, CERAMIC | | | |
| CV201 | 1-141-179-12 | CAP, VAR, TRIMMER | | | |
| CV202 | 1-141-260-21 | TRIMAR, CERAMIC | | | |

# BA

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| CV401 | 1-141-179-12 | CAP, VAR, TRIMMER | |
| CV402 | 1-141-260-21 | TRIMAR, CERAMIC | |
| CV501 | 1-141-179-12 | CAP, VAR, TRIMMER | |
| CV502 | 1-141-260-21 | TRIMAR, CERAMIC | |
| CV601 | 1-141-179-12 | CAP, VAR, TRIMMER | |
| CV602 | 1-141-260-21 | TRIMAR, CERAMIC | |
| | | DIODE | |
| D1 | 8-719-109-63 | DIODE RD3.0ES-B2 | |
| D2 | 8-719-000-06 | DIODE MC921 | |
| D4 | 8-719-000-04 | DIODE MC911 | |
| D701 | 8-719-911-19 | DIODE 1SS119 | |
| D702 | 8-719-109-75 | DIODE RD4.3ES-B2 | |
| D703 | 8-719-911-19 | DIODE 1SS119 | |
| D704 | 8-719-911-19 | DIODE 1SS119 | |
| D705 | 8-719-911-19 | DIODE 1SS119 | |
| D706 | 8-719-911-19 | DIODE 1SS119 | |
| D707 | 8-719-911-19 | DIODE 1SS119 | |
| D708 | 8-719-911-19 | DIODE 1SS119 | |
| D709 | 8-719-911-19 | DIODE 1SS119 | |
| D710 | 8-719-911-19 | DIODE 1SS119 | |
| | | IC | |
| IC1 | 8-759-208-94 | IC CX-894 | |
| IC2 | 8-759-208-94 | IC CX-894 | |
| IC3 | 8-759-140-53 | IC MC14053BCP | |
| | | TRANSISTOR | |
| Q1 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q2 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q3 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q4 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q5 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q6 | 8-729-926-32 | TRANSISTOR XDA144ES | |
| Q101 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q102 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q103 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q104 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q105 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q201 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q202 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q203 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q204 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q205 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q301 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q302 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q303 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q304 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q305 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q401 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q402 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q403 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q404 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q405 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q501 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q502 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q503 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q504 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q505 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q601 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q602 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q603 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q604 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q605 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q701 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q702 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q703 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q704 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q705 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q706 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q707 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q708 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q709 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q710 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q711 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q712 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q713 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q714 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q715 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q716 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q717 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| | | RESISTOR | |
| R1 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R2 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R3 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R4 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R5 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R6 | 1-249-432-11 | CARBON 18K 5% 1/4W | |
| R7 | 1-249-434-11 | CARBON 27K 5% 1/4W | |
| R8 | 1-249-422-11 | CARBON 2.7K 5% 1/4W | |
| R9 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R10 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R11 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R12 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R13 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R14 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R101 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R102 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R103 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R104 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R105 | 1-215-437-00 | METAL 4.7K 1% 1/6W | |
| R106 | 1-249-430-11 | CARBON 12K 5% 1/4W | |
| R107 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R108 | 1-215-427-00 | METAL 1.8K 1% 1/6W | |
| R109 | 1-215-415-00 | METAL 560 1% 1/6W | |
| R110 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R111 | 1-215-431-00 | METAL 2.7K 1% 1/6W | |
| R112 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R113 | 1-249-393-11 | CARBON 10 5% 1/4W | |
| R201 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R202 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R203 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R204 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R205 | 1-215-437-00 | METAL 4.7K 1% 1/6W | |
| R206 | 1-249-430-11 | CARBON 12K 5% 1/4W | |
| R207 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R208 | 1-215-427-00 | METAL 1.8K 1% 1/6W | |
| R209 | 1-215-415-00 | METAL 560 1% 1/6W | |
| R210 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R211 | 1-215-431-00 | METAL 2.7K 1% 1/6W | |
| R212 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R213 | 1-249-393-11 | CARBON 10 5% 1/4W | |
| R301 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R302 | 1-249-418-11 | CARBON 1.2K 5% 1/4W | |
| R303 | 1-249-426-11 | CARBON 5.6K 5% 1/4W | |
| R304 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R305 | 1-249-426-11 | CARBON 5.6K 5% 1/4W | |
| R306 | 1-249-430-11 | CARBON 12K 5% 1/4W | |
| R307 | 1-249-432-11 | CARBON 18K 5% 1/4W | |

**BA** **BD** **BM**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R308 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R309 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R310 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R311 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R312 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R313 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R401 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R402 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R403 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R404 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R405 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R406 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R407 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R408 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R409 | 1-215-415-00 | METAL | 560 | 1% | 1/6W |
| R410 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R411 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R412 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R413 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R501 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R502 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R503 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R504 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R505 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R506 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R507 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R508 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R509 | 1-215-415-00 | METAL | 560 | 1% | 1/6W |
| R510 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R511 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R512 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R513 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R601 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R602 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R603 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R604 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R605 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R606 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R607 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R608 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R609 | 1-215-415-00 | METAL | 560 | 1% | 1/6W |
| R610 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R611 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R612 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R613 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R701 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R702 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R703 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R704 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R705 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R706 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R707 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R708 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R709 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R710 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R711 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R712 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R713 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R714 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R715 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R716 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R717 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R718 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W |
| R719 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R720 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R721 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R722 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R723 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R724 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R725 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R726 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W |
| R727 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R728 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R729 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R730 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R731 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R732 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R733 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R734 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R735 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R736 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R737 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R738 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R739 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R740 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R741 | 1-202-473-00 | SOLID | 5.6M | 5% | 1/4W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV101 | 1-237-514-21 | RES, ADJ, CERMET 500 |
| RV201 | 1-237-514-21 | RES, ADJ, CERMET 500 |
| RV401 | 1-237-514-21 | RES, ADJ, CERMET 500 |
| RV501 | 1-237-514-21 | RES, ADJ, CERMET 500 |
| RV601 | 1-237-514-21 | RES, ADJ, CERMET 500 |

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| | | |
|---|---|---|
| *A-1135-391-A | BD BOARD, COMPLETE (BVM-2010P/PD ONLY) | |
| | ********** | |
| *A-1135-424-A | BM BOARD, COMPLETE (BVM-2010PM/PMD ONLY) | |
| | ********** | |
| *4-353-708-00 | HOOK, FINGER | |
| 7-682-547-04 | SCREW BVTT 3X6 (S) | |
| 7-682-950-01 | SCREW PSW 3X12 | |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-102-947-00 | CERAMIC (BVM-2010P/PD ONLY) | 10PF | 0.5PF | 50V |
| C1 | 1-102-951-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 15PF | 5% | 50V |
| C2 | 1-102-947-00 | CERAMIC (BVM-2010P/PD ONLY) | 10PF | 0.5PF | 50V |
| C2 | 1-102-951-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 15PF | 5% | 50V |
| C3 | 1-102-963-00 | CERAMIC (BVM-2010P/PD ONLY) | 33PF | 5% | 50V |
| C4 | 1-101-880-00 | CERAMIC (BVM-2010P/PD ONLY) | 47PF | 5% | 50V |
| C4 | 1-101-361-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 39PF | 5% | 50V |
| C6 | 1-101-888-00 | CERAMIC (BVM-2010P/PD ONLY) | 68PF | 5% | 50V |
| C6 | 1-101-884-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 56PF | 5% | 50V |
| C7 | 1-102-963-00 | CERAMIC (BVM-2010P/PD ONLY) | 33PF | 5% | 50V |
| C7 | 1-101-361-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 39PF | 5% | 50V |
| C8 | 1-102-943-00 | CERAMIC (BVM-2010P/PD ONLY) | 6PF | 0.5PF | 50V |
| C8 | 1-102-935-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 2PF | 0.25PF | 50V |
| C9 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C10 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |

**BD** **BM**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C11 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C12 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C13 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C14 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C15 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C16 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C17 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C18 | 1-102-950-00 | CERAMIC (BVM-2010P/PD ONLY) | 13PF | 5% | 50V |
| C18 | 1-102-951-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 15PF | 5% | 50V |
| C19 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C20 | 1-101-888-00 | CERAMIC (BVM-2010P/PD ONLY) | 68PF | 5% | 50V |
| C20 | 1-101-884-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 56PF | 5% | 50V |
| C21 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |
| C22 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |
| C23 | 1-123-380-00 | ELECT (BVM-2010P/PD ONLY) | 1MF | 20% | 50V |
| C23 | 1-136-153-00 | FILM (BVM-2010PM/PMD ONLY) | 0.01MF | 5% | 50V |
| C24 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C25 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C26 | 1-109-628-00 | MICA (BVM-2010P/PD ONLY) | 160PF | 1% | 500V |
| C26 | 1-109-676-00 | MICA (BVM-2010PM/PMD ONLY) | 130PF | 1% | 500V |
| C27 | 1-102-960-00 | CERAMIC | 24PF | 5% | 50V |
| C28 | 1-109-631-00 | MICA | 330PF | 1% | 500V |
| C29 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C30 | 1-109-628-00 | MICA (BVM-2010P/PD ONLY) | 160PF | 1% | 500V |
| C30 | 1-109-676-00 | MICA (BVM-2010PM/PMD ONLY) | 130PF | 1% | 500V |
| C31 | 1-102-960-00 | CERAMIC | 24PF | 5% | 50V |
| C32 | 1-109-631-00 | MICA | 330PF | 1% | 500V |
| C33 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C34 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C35 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C36 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C37 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C38 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C39 | 1-109-667-11 | MICA | 56PF | 1% | 500V |
| C40 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C41 | 1-109-621-00 | MICA | 220PF | 1% | 500V |
| C43 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C44 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C45 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C46 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C49 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C50 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C51 | 1-109-667-11 | MICA | 56PF | 1% | 500V |
| C52 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C53 | 1-109-621-00 | MICA | 220PF | 1% | 500V |
| C55 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C56 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C57 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C58 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C59 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C60 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C62 | 1-102-960-00 | CERAMIC (BVM-2010P/PD ONLY) | 24PF | 5% | 50V |
| C63 | 1-101-884-00 | CERAMIC | 56PF | 5% | 50V |
| C64 | 1-101-884-00 | CERAMIC | 56PF | 5% | 50V |
| C65 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C66 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C67 | 1-102-935-00 | CERAMIC | 2PF | 0.25PF | 50V |
| C68 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C69 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C70 | 1-123-369-00 | ELECT | 4.7MF | 20% | 50V |
| C71 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C75 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C80 | 1-126-301-11 | ELECT (BVM-2010PM/PMD ONLY) | 1MF | 20% | 50V |
| C100 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C101 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C102 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C103 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C104 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C106 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C107 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C108 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C109 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C110 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C111 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C112 | 1-124-119-00 | ELECT | 330MF | 20% | 16V |
| C114 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C115 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C121 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C122 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C123 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C124 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C125 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C126 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C200 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C201 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C202 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C203 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C204 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C220 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C221 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C222 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C224 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C225 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C226 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C227 | 1-123-330-00 | ELECT | 22MF | 20% | 25V |
| C250 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C251 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C301 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C302 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C303 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C304 | 1-102-947-00 | CERAMIC (BVM-2010P/PD ONLY) | 10PF | 0.5PF | 50V |
| C312 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C313 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C316 | 1-102-935-00 | CERAMIC (BVM-2010P/PD ONLY) | 2PF | 0.25PF | 50V |
| C316 | 1-102-947-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 10PF | 0.5PF | 50V |
| C350 | 1-102-963-00 | CERAMIC (BVM-2010P/PD ONLY) | 33PF | 5% | 50V |
| C350 | 1-102-959-00 | CERAMIC (BVM-2010PM/PMD ONLY) | 22PF | 5% | 50V |

TRIMMER

| | | |
|---|---|---|
| CV1 | 1-141-171-00 | CAP,TRIMMER 15P |
| CV2 | 1-141-179-12 | CAP, VAR, TRIMMER |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-109-63 | DIODE RD3.0ES-B2 |

BD BM

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| D5 | 8-719-100-54 | DIODE RD9.1EB2 | |
| D6 | 8-719-911-19 | DIODE 1SS119 | |
| D10 | 8-719-920-95 | DIODE 1T25-0 | |
| D11 | 8-719-911-19 | DIODE 1SS119 | |
| D12 | 8-719-100-66 | DIODE RD12EB2 | |
| D13 | 8-719-100-66 | DIODE RD12EB2 | |
| D15 | 8-719-911-19 | DIODE 1SS119 (BVM-2010PM/PMD ONLY) | |
| D16 | 8-719-911-19 | DIODE 1SS119 | |
| D201 | 8-719-911-19 | DIODE 1SS119 | |
| D202 | 8-719-911-19 | DIODE 1SS119 | |
| | | IC | |
| IC1 | 8-759-204-21 | IC TA7193P | |
| IC2 | 8-759-800-81 | IC LA7016 | |
| IC3 | 8-759-246-15 | IC TL8608AP | |
| | *1-526-654-00 | SOCKET, IC (DP) 16P (IC3) | |
| IC4 | 8-759-246-15 | IC TL8608AP | |
| | *1-526-654-00 | SOCKET, IC (DP) 16P (IC4) | |
| IC5 | 8-759-140-53 | IC MC14053BCP | |
| IC6 | 8-759-800-81 | IC LA7016 | |
| IC7 | 8-759-945-58 | IC RC4558P | |
| IC8 | 8-759-945-58 | IC RC4558P | |
| | | COIL | |
| L1 | 1-408-533-00 | COIL, VARIABLE | |
| L2 | 1-408-532-00 | COIL, VARIABLE (BVM-2010P/PD ONLY) | |
| L2 | 1-408-514-00 | COIL, VARIABLE (BVM-2010PM/PMD ONLY) | |
| L3 | 1-408-514-00 | COIL (VARIABLE) (BVM-2010P/PD ONLY) | |
| L3 | 1-408-533-00 | COIL (VARIABLE) (BVM-2010PM/PMD ONLY) | |
| L4 | 1-408-421-00 | INDUCTOR 100UH | |
| L5 | 1-408-429-00 | INDUCTOR 470UH | |
| L6 | 1-408-429-00 | INDUCTOR 470UH | |
| L8 | 1-408-421-00 | INDUCTOR 100UH | |
| L101 | 1-408-421-00 | INDUCTOR 100UH | |
| L102 | 1-408-421-00 | INDUCTOR 100UH | |
| | | TRANSISTOR | |
| Q1 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q4 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q5 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q6 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q7 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q8 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q9 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q10 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE (BVM-2010P/PD ONLY) | |
| Q10 | 8-729-384-48 | TRANSISTOR 2SA844 (BVM-2010PM/PMD ONLY) | |
| Q11 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE (BVM-2010P/PD ONLY) | |
| Q11 | 8-729-384-48 | TRANSISTOR 2SA844 (BVM-2010PM/PMD ONLY) | |
| Q12 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q13 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q14 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q15 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q16 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q17 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q18 | 8-729-600-19 | TRANSISTOR 2SK381-A | |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| Q20 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE (BVM-2010P/PD ONLY) | |
| Q20 | 8-729-384-48 | TRANSISTOR 2SA844 (BVM-2010PM/PMD ONLY) | |
| Q21 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q23 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q24 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q25 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q26 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q28 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE (BVM-2010P/PD ONLY) | |
| Q28 | 8-729-384-48 | TRANSISTOR 2SA844 (BVM-2010PM/PMD ONLY) | |
| Q29 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q30 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q31 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q32 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q33 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q34 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q35 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q36 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q38 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q101 | 8-729-140-97 | TRANSISTOR 2SB734-34 | |
| Q102 | 8-729-320-62 | TRANSISTOR 2SD789-34 (BVM-2010P/PD ONLY) | |
| Q102 | 8-729-378-93 | TRANSISTOR 2SD789-5 (BVM-2010PM/PMD ONLY) | |
| Q103 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q104 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| | | RESISTOR | |
| R1 | 1-249-428-11 | CARBON 8.2K 5% 1/4W | |
| R2 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R3 | 1-249-422-11 | CARBON 2.7K 5% 1/4W | |
| R4 | 1-215-425-00 | METAL 1.5K 1% 1/4W (BVM-2010P/PD ONLY) | |
| R4 | 1-215-421-00 | METAL 1K 1% 1/6W (BVM-2010PM/PMD ONLY) | |
| R5 | 1-215-395-00 | METAL 82 1% 1/6W (BVM-2010P/PD ONLY) | |
| R5 | 1-215-398-00 | METAL 110 1% 1/6W (BVM-2010PM/PMD ONLY) | |
| R6 | 1-215-421-00 | METAL 1K 1% 1/4W | |
| R7 | 1-215-421-00 | METAL 1K 1% 1/4W | |
| R8 | 1-215-423-00 | METAL 1.2K 1% 1/6W (BVM-2010P/PD ONLY) | |
| R8 | 1-215-427-00 | METAL 1.8K 1% 1/6W (BVM-2010PM/PMD ONLY) | |
| R9 | 1-215-421-00 | METAL 1K 1% 1/6W | |
| R10 | 1-215-421-00 | METAL 1K 1% 1/6W | |
| R11 | 1-215-391-00 | METAL 56 1% 1/6W (BVM-2010P/PD ONLY) | |
| R11 | 1-215-400-00 | METAL 130 1% 1/6W (BVM-2010PM/PMD ONLY) | |
| R12 | 1-215-427-00 | METAL 1.8K 1% 1/6W (BVM-2010P/PD ONLY) | |
| R12 | 1-215-429-00 | METAL 2.2K 1% 1/6W (BVM-2010PM/PMD ONLY) | |
| R13 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R14 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R15 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R17 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R18 | 1-215-425-00 | METAL 1.5K 1% 1/4W | |
| R19 | 1-215-425-00 | METAL 1.5K 1% 1/4W | |
| R20 | 1-215-425-00 | METAL 1.5K 1% 1/4W | |
| R21 | 1-215-425-00 | METAL 1.5K 1% 1/4W | |
| R22 | 1-249-405-11 | CARBON 100 5% 1/4W | |

**BD** **BM**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R23 | 1-215-441-00 | METAL (BVM-2010P/PD ONLY) | 6.8K | 1% | 1/4W |
| R23 | 1-215-439-00 | METAL (BVM-2010PM/PMD ONLY) | 5.6K | 1% | 1/6W |
| R24 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R25 | 1-249-427-11 | CARBON (BVM-2010P/PD ONLY) | 6.8K | 5% | 1/4W |
| R25 | 1-249-425-11 | CARBON (BVM-2010PM/PMD ONLY) | 4.7K | 5% | 1/4W |
| R26 | 1-249-415-11 | CARBON (BVM-2010P/PD ONLY) | 680 | 5% | 1/4W |
| R26 | 1-249-418-11 | CARBON (BVM-2010PM/PMD ONLY) | 1.2 | 5% | 1/4W |
| R27 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R28 | 1-249-420-11 | CARBON (BVM-2010P/PD ONLY) | 1.8K | 5% | 1/4W |
| R28 | 1-249-423-11 | CARBON (BVM-2010PM/PMD ONLY) | 3.3K | 5% | 1/4W |
| R29 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R30 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R31 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R32 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R34 | 1-215-407-00 | METAL (BVM-2010P/PD ONLY) | 270 | 1% | 1/4W |
| R34 | 1-215-417-00 | METAL (BVM-2010PM/PMD ONLY) | 680 | 1% | 1/6W |
| R35 | 1-215-407-00 | METAL (BVM-2010P/PD ONLY) | 270 | 1% | 1/4W |
| R35 | 1-215-417-00 | METAL (BVM-2010PM/PMD ONLY) | 680 | 1% | 1/6W |
| R36 | 1-215-413-00 | METAL | 470 | 1% | 1/4W |
| R37 | 1-215-443-00 | METAL | 8.2K | 1% | 1/4W |
| R38 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R39 | 1-215-425-00 | METAL (BVM-2010P/PD ONLY) | 1.5K | 1% | 1/6W |
| R39 | 1-215-429-00 | METAL (BVM-2010PM/PMD ONLY) | 2.2K | 1% | 1/6W |
| R40 | 1-215-421-00 | METAL (BVM-2010P/PD ONLY) | 1K | 1% | 1/6W |
| R40 | 1-215-417-00 | CARBON (BVM-2010PM/PMD ONLY) | 1K | 1% | 1/4W |
| R41 | 1-215-429-00 | METAL (BVM-2010P/PD ONLY) | 2.2K | 1% | 1/6W |
| R41 | 1-215-421-11 | CARBON (BVM-2010PM/PMD ONLY) | 2.2K | 5% | 1/4W |
| R42 | 1-215-445-00 | METAL (BVM-2010P/PD ONLY) | 10K | 1% | 1/6W |
| R42 | 1-249-429-11 | CARBON (BVM-2010PM/PMD ONLY) | 10K | 1% | 1/4W |
| R43 | 1-215-421-00 | METAL (BVM-2010P/PD ONLY) | 1K | 1% | 1/6W |
| R43 | 1-249-417-11 | CARBON (BVM-2010PM/PMD ONLY) | 1K | 1% | 1/4W |
| R44 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R45 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R46 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R47 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R48 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R54 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R55 | 1-215-418-00 | METAL (BVM-2010P/PD ONLY) | 750 | 1% | 1/6W |
| R55 | 1-215-420-00 | METAL (BVM-2010PM/PMD ONLY) | 910 | 1% | 1/6W |
| R56 | 1-215-420-00 | METAL | 910 | 1% | 1/6W |
| R57 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R58 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R59 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R60 | 1-215-418-00 | METAL (BVM-2010P/PD ONLY) | 750 | 1% | 1/6W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R60 | 1-215-420-00 | METAL (BVM-2010PM/PMD ONLY) | 910 | 1% | 1/6W |
| R61 | 1-215-420-00 | METAL | 910 | 1% | 1/6W |
| R62 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R63 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R64 | 1-215-477-00 | METAL (BVM-2010P/PD ONLY) | 220K | 1% | 1/6W |
| R64 | 1-249-417-11 | CARBON (BVM-2010PM/PMD ONLY) | 1K | 5% | 1/4W |
| R65 | 1-215-435-00 | METAL (BVM-2010P/PD ONLY) | 3.9K | 1% | 1/6W |
| R65 | 1-215-429-00 | METAL (BVM-2010PM/PMD ONLY) | 2.2K | 1% | 1/6W |
| R66 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R70 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R71 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R72 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R73 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R74 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R75 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R76 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R77 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R78 | 1-215-424-00 | METAL | 1.3K | 1% | 1/6W |
| R79 | 1-215-419-00 | METAL | 820 | 1% | 1/6W |
| R80 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W |
| R81 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R82 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R83 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R84 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R85 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R86 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R87 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R88 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R89 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R90 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R91 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R92 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R93 | 1-215-424-00 | METAL | 1.3K | 1% | 1/6W |
| R94 | 1-215-419-00 | METAL | 820 | 1% | 1/6W |
| R95 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W |
| R96 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R97 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R98 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R99 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R100 | 1-215-438-00 | METAL | 5.1K | 1% | 1/6W |
| R101 | 1-215-438-00 | METAL | 5.1K | 1% | 1/6W |
| R102 | 1-215-438-00 | METAL | 5.1K | 1% | 1/6W |
| R103 | 1-215-438-00 | METAL | 5.1K | 1% | 1/6W |
| R104 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R105 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R106 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R107 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R108 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R109 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R110 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R115 | 1-215-438-00 | METAL (BVM-2010P/PD ONLY) | 5.1K | 1% | 1/6W |
| R115 | 1-215-429-00 | METAL (BVM-2010PM/PMD ONLY) | 2.2K | 1% | 1/6W |
| R116 | 1-215-438-00 | METAL (BVM-2010P/PD ONLY) | 5.1K | 1% | 1/6W |
| R116 | 1-215-429-00 | METAL (BVM-2010PM/PMD ONLY) | 2.2K | 1% | 1/6W |
| R120 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R121 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R130 | 1-215-477-00 | METAL (BVM-2010P/PD ONLY) | 220K | 1% | 1/6W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R130 | 1-215-485-00 | METAL (BVM-2010PM/PMD ONLY) | 470K | 1% | 1/6W |
| R150 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R201 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R202 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R203 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R204 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R220 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R221 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R222 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R250 | 1-215-415-00 | METAL | 560 | 1% | 1/6W |
| R251 | 1-215-415-00 | METAL | 560 | 1% | 1/6W |
| R252 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R254 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R255 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R259 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R301 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R302 | 1-215-491-00 | METAL | 820K | 1% | 1/6W |
| R303 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W |
| R305 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R306 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R307 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R308 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R310 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R314 | 1-215-417-00 | METAL | 680 | 1% | 1/6W |
| R315 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R316 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R317 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R320 | 1-215-472-00 | METAL (BVM-2010P/PD ONLY) | 130K | 1% | 1/6W |
| R320 | 1-215-482-00 | METAL (BVM-2010PM/PMD ONLY) | 360K | 1% | 1/6W |
| R353 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R354 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R400 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-515-21 | RES, ADJ, CERMET 1K |
| RV2 | 1-237-499-21 | RES, ADJ, CERMET 500 |
| RV3 | 1-237-501-21 | RES, ADJ, CERMET 2K |
| RV4 | 1-237-501-21 | RES, ADJ, CERMET 2K |
| RV5 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV6 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV7 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV8 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV9 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV10 | 1-237-517-21 | RES, ADJ, CERMET 5K |

THERMISTOR

| | | |
|---|---|---|
| TH1 | 1-800-202-XX | THERMISTOR S-10K (BVM-2010PM/PMD ONLY) |

CRYSTAL

| | | |
|---|---|---|
| X1 | 1-567-504-11 | OSCILLATOR, CRYSTAL 4.43 MHz (BVM-2010P/PD ONLY) |
| X1 | 1-527-794-00 | VIBRATOR, CRYSTAL 3.58 MHz (BVM-2010PM/PMD ONLY) |
| X2 | 1-567-409-11 | VIBRATOR, CRYSTAL 10.64 MHz (BVM-2010P/PD ONLY) |
| X2 | 1-567-416-11 | VIBRATOR, CRYSTAL 10.717 MHz (BVM-2010PM/PMD ONLY) |

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| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | *A-1135-358-A | BG BOARD, COMPLETE ********** | | | |
| | *4-353-708-00 | HOOK, FINGER | | | |
| | 7-682-547-04 | SCREW BVTT 3X6 (S) | | | |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C2 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C3 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C4 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C7 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C8 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C9 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C10 | 1-102-935-00 | CERAMIC | 2PF | 0.25PF | 50V |
| C12 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C15 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C16 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C22 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C25 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C26 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C32 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C33 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C34 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C35 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C41 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C42 | 1-102-947-00 | CERAMIC | 10PF | 0.5PF | 50V |
| C44 | 1-102-936-00 | CERAMIC | 3PF | 0.25PF | 50V |
| C45 | 1-102-947-00 | CERAMIC | 10PF | 0.5PF | 50V |
| C47 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C51 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C52 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C53 | 1-123-356-00 | ELECT | 10MF | 20% | 25V |
| C54 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C55 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C56 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C101 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C102 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C103 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C105 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C106 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C111 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C112 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C113 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C114 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C115 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C116 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C117 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C131 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C132 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C133 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C135 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C136 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C141 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C142 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C143 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C144 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C145 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C146 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C147 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |

TRIMMER

| | | |
|---|---|---|
| CV2 | 1-141-181-11 | CAP,TRIMMER |
| CV3 | 1-141-171-00 | CAP,TRIMMER 20P |

# BG

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| | | **DIODE** | |
| D1 | 8-719-911-19 | DIODE 1SS119 | |
| D2 | 8-719-911-19 | DIODE 1SS119 | |
| D3 | 8-719-016-42 | DIODE MC932 | |
| D4 | 8-719-016-42 | DIODE MC932 | |
| D5 | 8-719-911-19 | DIODE 1SS119 | |
| D6 | 8-719-911-19 | DIODE 1SS119 | |
| D7 | 8-719-911-19 | DIODE 1SS119 | |
| D8 | 8-719-109-93 | DIODE RD6.2ES-B2 | |
| D11 | 8-719-911-19 | DIODE 1SS119 | |
| D12 | 8-719-911-19 | DIODE 1SS119 | |
| D13 | 8-719-911-19 | DIODE 1SS119 | |
| D14 | 8-719-911-19 | DIODE 1SS119 | |
| D16 | 8-719-911-19 | DIODE 1SS119 | |
| D17 | 8-719-911-19 | DIODE 1SS119 | |
| | | **DELAY LINE** | |
| DL1 | 1-415-477-11 | DELAY LINE | |
| DL2 | 1-415-458-11 | DELAY LINE | |
| DL3 | 1-415-458-11 | DELAY LINE | |
| DL4 | 1-415-458-11 | DELAY LINE | |
| | | **IC** | |
| IC1 | 8-759-800-81 | IC LA7016 | |
| IC2 | 8-766-001-49 | TRANSISTOR TX-429M | |
| IC3 | 8-759-945-58 | IC RC4558P | |
| IC4 | 8-757-182-14 | IC CX-718D-1 | |
| IC5 | 8-759-140-53 | IC MC14053BCP | |
| IC6 | 8-759-140-53 | IC MC14053BCP | |
| IC7 | 8-759-990-82 | IC TL082CP | |
| IC8 | 8-759-990-82 | IC TL082CP | |
| IC9 | 8-759-990-82 | IC TL082CP | |
| | | **COIL** | |
| L2 | 1-408-408-00 | INDUCTOR 8.2UH | |
| L3 | 1-408-413-00 | INDUCTOR 22UH | |
| L4 | 1-408-413-00 | INDUCTOR 22UH | |
| | | **TRANSISTOR** | |
| Q1 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q5 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q7 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q8 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q9 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q10 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q11 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q12 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q13 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q14 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q21 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q23 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q24 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q25 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q26 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q27 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q28 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q29 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q30 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q31 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q32 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q33 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q34 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q35 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q36 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q37 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q38 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q39 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q40 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q41 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q42 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q43 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q44 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q45 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q49 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q50 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q51 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q52 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q53 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q54 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q55 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q56 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q57 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q58 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q59 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q60 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q71 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q72 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q73 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q74 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q75 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q76 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q77 | 8-729-926-40 | TRANSISTOR XDA124ES | |
| Q78 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q81 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q82 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q83 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q84 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q85 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| | | **RESISTOR** | |
| R1 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R2 | 1-215-396-00 | METAL 91 1% 1/6W | |
| R3 | 1-215-431-00 | METAL 2.7K 1% 1/6W | |
| R4 | 1-249-419-11 | CARBON 1.5K 5% 1/4W | |
| R6 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R7 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R8 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R10 | 1-247-830-11 | CARBON 910 5% 1/4W | |
| R11 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R12 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R13 | 1-215-462-00 | METAL 51K 1% 1/6W | |
| R14 | 1-249-426-11 | CARBON 5.6K 5% 1/4W | |
| R15 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R16 | 1-215-477-00 | METAL 220K 1% 1/6W | |
| R17 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R18 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R19 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R20 | 1-215-421-00 | METAL 1K 1% 1/6W | |
| R21 | 1-215-421-00 | METAL 1K 1% 1/6W | |
| R22 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R23 | 1-215-409-00 | METAL 330 1% 1/6W | |
| R24 | 1-215-380-00 | METAL 20 1% 1/6W | |
| R25 | 1-215-380-00 | METAL 20 1% 1/6W | |
| R26 | 1-215-409-00 | METAL 330 1% 1/6W | |
| R27 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R28 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R29 | 1-215-418-00 | METAL 750 1% 1/6W | |
| R30 | 1-249-422-11 | CARBON 2.7K 5% 1/4W | |
| R31 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R32 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |

**BG**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R33 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R34 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R35 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R36 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R37 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R40 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R41 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R42 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R43 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R44 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R45 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R46 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R47 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R48 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R49 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R50 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R51 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R52 | 1-247-866-11 | CARBON | 30K | 5% | 1/4W |
| R53 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R54 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R55 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R56 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R57 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R58 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R59 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R61 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R62 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R63 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R64 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R65 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R66 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R67 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R68 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R69 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R70 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R71 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R72 | 1-247-866-11 | CARBON | 30K | 5% | 1/4W |
| R73 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R74 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R75 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R76 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R77 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R78 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R79 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R80 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R81 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R82 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R83 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R84 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R85 | 1-247-866-11 | CARBON | 30K | 5% | 1/4W |
| R86 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R87 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R88 | 1-215-430-00 | METAL | 2.4K | 1% | 1/6W |
| R89 | 1-215-443-00 | METAL | 8.2K | 1% | 1/6W |
| R90 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R91 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R92 | 1-247-830-11 | CARBON | 910 | 5% | 1/4W |
| R93 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R94 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R98 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R99 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R101 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R102 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R103 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R104 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R105 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R106 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R107 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R108 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R109 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R110 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R111 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R112 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R113 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R114 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R115 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R116 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R117 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R118 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R119 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R120 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R161 | 1-215-438-00 | METAL | 5.1K | 1% | 1/6W |
| R162 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R163 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R164 | 1-215-435-00 | METAL | 3.9K | 1% | 1/6W |
| R165 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R166 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R167 | 1-215-409-00 | METAL | 330 | 1% | 1/6W |
| R168 | 1-215-411-00 | METAL | 390 | 1% | 1/6W |
| R169 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R170 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R171 | 1-215-436-00 | METAL | 4.3K | 1% | 1/6W |
| R172 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R173 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R174 | 1-215-435-00 | METAL | 3.9K | 1% | 1/6W |
| R175 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R176 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R177 | 1-215-409-00 | METAL | 330 | 1% | 1/6W |
| R178 | 1-215-414-00 | METAL | 510 | 1% | 1/6W |
| R179 | 1-215-422-00 | METAL | 1.1K | 1% | 1/6W |
| R180 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R181 | 1-215-380-00 | METAL | 20 | 1% | 1/6W |
| R182 | 1-215-380-00 | METAL | 20 | 1% | 1/6W |
| R183 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R184 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R185 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R201 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R202 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R203 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R204 | 1-247-872-11 | CARBON | 51K | 5% | 1/4W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-514-21 | RES, ADJ, CERMET 500 |
| RV2 | 1-237-508-21 | RES, ADJ, CERMET 500K |
| RV3 | 1-237-498-21 | RES, ADJ, CERMET 200 |
| RV4 | 1-237-500-21 | RES, ADJ, CERMET 1K |
| RV5 | 1-237-500-21 | RES, ADJ, CERMET 1K |
| RV11 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV12 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV13 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV14 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV15 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV16 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV21 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV22 | 1-237-517-21 | RES, ADJ, CERMET 5K |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |

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# BH

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | *A-1135-359-A | BH BOARD, COMPLETE | | | |
| | | ********** | | | |
| | *4-353-708-00 | HOOK, FINGER | | | |
| | 7-682-547-04 | SCREW BVTT 3X6 (S) | | | |
| | | CAPACITOR | | | |
| C1 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C2 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C3 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C4 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C5 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C6 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C7 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C8 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C9 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C10 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C11 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C12 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C13 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C14 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C15 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C16 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C17 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C18 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C20 | 1-123-382-00 | ELECT | 3.3MF | 20% | 50V |
| C21 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C22 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C23 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C24 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C26 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C41 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C42 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C43 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C44 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C45 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C50 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C51 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C52 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C53 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C54 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C55 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C71 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C72 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C73 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C74 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C80 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C81 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C82 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C83 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C84 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C85 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C86 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C101 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C102 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C103 | 1-102-959-00 | CERAMIC | 22PF | 5% | 50V |
| C104 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C105 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C106 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C107 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C108 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C109 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C110 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C201 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C202 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C203 | 1-102-959-00 | CERAMIC | 22PF | 5% | 50V |
| C204 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C205 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C206 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C207 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C208 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C209 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C210 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C301 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C302 | 1-102-942-00 | CERAMIC | 5PF | 0.5PF | 50V |
| C303 | 1-102-959-00 | CERAMIC | 22PF | 5% | 50V |
| C304 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C305 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C306 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C307 | 1-161-021-11 | CERAMIC | 0.047MF | 10% | 25V |
| C308 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C309 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C310 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| | | DIODE | | | |
| D1 | 8-719-911-19 | DIODE 1SS119 | | | |
| D101 | 8-719-911-19 | DIODE 1SS119 | | | |
| D102 | 8-719-911-19 | DIODE 1SS119 | | | |
| D201 | 8-719-911-19 | DIODE 1SS119 | | | |
| D202 | 8-719-911-19 | DIODE 1SS119 | | | |
| D301 | 8-719-911-19 | DIODE 1SS119 | | | |
| D302 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | IC | | | |
| IC1 | 8-759-040-53 | IC TC4053BPHB | | | |
| IC2 | 8-759-040-53 | IC TC4053BPHB | | | |
| IC3 | 8-759-040-53 | IC TC4053BPHB | | | |
| IC4 | 8-759-040-53 | IC TC4053BPHB | | | |
| IC5 | 8-759-981-95 | IC RC4558S | | | |
| IC6 | 8-759-981-95 | IC RC4558S | | | |
| IC7 | 8-759-800-81 | IC LA7016 | | | |
| IC8 | 8-759-800-81 | IC LA7016 | | | |
| IC9 | 8-759-140-53 | IC MC14053BCP | | | |
| IC10 | 8-759-140-53 | IC MC14053BCP | | | |
| IC11 | 8-759-240-81 | IC TC4081BP | | | |
| IC12 | 8-759-240-81 | IC TC4081BP | | | |
| IC13 | 8-759-240-01 | IC TC4001BP | | | |
| IC14 | 8-759-207-73 | IC TC4030BPHB | | | |
| IC101 | 8-766-001-49 | TRANSISTOR TX-429M | | | |
| IC102 | 8-759-990-82 | IC TL082CP | | | |
| IC201 | 8-766-001-49 | TRANSISTOR TX-429M | | | |
| IC202 | 8-759-990-82 | IC TL082CP | | | |
| IC301 | 8-766-001-49 | TRANSISTOR TX-429M | | | |
| IC302 | 8-759-990-82 | IC TL082CP | | | |
| | | TRANSISTOR | | | |
| Q1 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |
| Q2 | 8-729-105-71 | TRANSISTOR 2SK523-K2 | | | |
| Q3 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q4 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |
| Q5 | 8-729-105-71 | TRANSISTOR 2SK523-K2 | | | |
| Q6 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q7 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |
| Q8 | 8-729-105-71 | TRANSISTOR 2SK523-K2 | | | |
| Q9 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q10 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |
| Q11 | 8-729-105-71 | TRANSISTOR 2SK523-K2 | | | |
| Q12 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q13 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q14 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |
| Q15 | 8-729-384-48 | TRANSISTOR 2SA844-E | | | |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| Q16 | 8-729-800-10 | TRANSISTOR 2SC3068 | |
| Q101 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q102 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q103 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q104 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q105 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q106 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q107 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q108 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q201 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q202 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q203 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q204 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q205 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q206 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q207 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q208 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q301 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q302 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q303 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q304 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q305 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q306 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q307 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q308 | 8-729-600-19 | TRANSISTOR 2SK381-A | |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R3 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R5 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R6 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R7 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R9 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R11 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R12 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R13 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R15 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R17 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R18 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R19 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R21 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R23 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R31 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R32 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R33 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R34 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R35 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R36 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R37 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R38 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R39 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R40 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R52 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R53 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R54 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R63 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R64 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R65 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R66 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R101 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R102 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R103 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R104 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R105 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R106 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R107 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R108 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R109 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R110 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R111 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R112 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R113 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R114 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R115 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R116 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R117 | 1-215-493-00 | METAL | 1M | 1% | 1/6W |
| R120 | 1-215-451-00 | METAL | 18K | 1% | 1/6W |
| R121 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R201 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R202 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R203 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R204 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R205 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R206 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R207 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W |
| R208 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R209 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R210 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R211 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R212 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R213 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R214 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R215 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R216 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R217 | 1-215-455-00 | METAL | 27K | 1% | 1/6W |
| R301 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R302 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R303 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R304 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R305 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R306 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R307 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W |
| R308 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R309 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R310 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R311 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R312 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R313 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R314 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R315 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R316 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-505-21 | RES, ADJ, CERMET 50K |
| RV2 | 1-237-505-21 | RES, ADJ, CERMET 50K |
| RV3 | 1-237-505-21 | RES, ADJ, CERMET 50K |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |
| S2 | 1-570-851-11 | SWITCH, SLIDE |

**********

| | | |
|---|---|---|
| *A-1135-360-A | BI BOARD, COMPLETE | |
| | ********** | |
| *4-353-708-00 | HOOK, FINGER | |
| 7-682-547-04 | SCREW BVTT 3X6 (S) | |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-130-481-00 | MYLAR | 0.0068MF | 5% | 50V |
| C2 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |

# BI

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C3 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C4 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C5 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C7 | 1-123-330-00 | ELECT | 22MF | 20% | 25V |
| C8 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C11 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C12 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C13 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C14 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C15 | 1-123-330-00 | ELECT | 22MF | 20% | 16V |
| C16 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C17 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C18 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C19 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C41 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C42 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C43 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C44 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C45 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C46 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C51 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C52 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C53 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C54 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C55 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C56 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C57 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C71 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C72 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C73 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C74 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C75 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C76 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C81 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C82 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C83 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C84 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C85 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C86 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C87 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C101 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C102 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C104 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C105 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C106 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C107 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C108 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C109 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C110 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C114 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C115 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C116 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C117 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C118 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C119 | 1-102-953-00 | CERAMIC | 18PF | 5% | 50V |
| C120 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C122 | 1-102-943-00 | CERAMIC | 6PF | 0.5PF | 50V |
| C201 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C202 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C204 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C205 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C206 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C207 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C208 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C209 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C210 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C214 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C215 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C216 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C217 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C218 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C219 | 1-102-953-00 | CERAMIC | 18PF | 5% | 50V |
| C220 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C222 | 1-102-943-00 | CERAMIC | 6PF | 0.5PF | 50V |
| C301 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C302 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C304 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C305 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C306 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C307 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C308 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C309 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C310 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C314 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C315 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C316 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C317 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C318 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C319 | 1-102-953-00 | CERAMIC | 18PF | 5% | 50V |
| C320 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C322 | 1-102-943-00 | CERAMIC | 6PF | 0.5PF | 50V |

## DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-911-19 | DIODE 1SS119 |
| D5 | 8-719-911-19 | DIODE 1SS119 |
| D6 | 8-719-110-31 | DIODE RD12ES-B2 |
| D7 | 8-719-911-19 | DIODE 1SS119 |
| D8 | 8-719-911-19 | DIODE 1SS119 |
| D101 | 8-719-911-19 | DIODE 1SS119 |
| D102 | 8-719-016-42 | DIODE MC932 |
| D103 | 8-719-109-74 | DIODE RD4.3ES-B1 |
| D104 | 8-719-911-19 | DIODE 1SS119 |
| D105 | 8-719-109-93 | DIODE RD6.2ES-B2 |
| D201 | 8-719-911-19 | DIODE 1SS119 |
| D202 | 8-719-016-42 | DIODE MC932 |
| D203 | 8-719-109-74 | DIODE RD4.3ES-B1 |
| D204 | 8-719-911-19 | DIODE 1SS119 |
| D205 | 8-719-109-93 | DIODE RD6.2ES-B2 |
| D301 | 8-719-911-19 | DIODE 1SS119 |
| D302 | 8-719-016-42 | DIODE MC932 |
| D303 | 8-719-109-74 | DIODE RD4.3ES-B1 |
| D304 | 8-719-911-19 | DIODE 1SS119 |
| D305 | 8-719-109-93 | DIODE RD6.2ES-B2 |

## IC

| | | |
|---|---|---|
| IC1 | 8-759-945-58 | IC RC4558P |
| IC101 | 8-759-040-53 | IC MC14053BCP |
| IC102 | 8-766-001-49 | TRANSISTOR TX-429M |
| IC103 | 8-759-990-82 | IC TL082CP |
| IC104 | 8-759-990-82 | IC TL082CP |
| IC105 | 8-759-990-82 | IC TL082CP |
| IC201 | 8-759-040-53 | IC MC14053BCP |
| IC202 | 8-766-001-49 | TRANSISTOR TX-429M |
| IC203 | 8-759-990-82 | IC TL082CP |
| IC204 | 8-759-990-82 | IC TL082CP |
| IC205 | 8-759-990-82 | IC TL082CP |
| IC301 | 8-759-040-53 | IC MC14053BCP |
| IC302 | 8-766-001-49 | TRANSISTOR TX-429M |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| IC303 | 8-759-990-82 | IC TL082CP | |
| IC304 | 8-759-990-82 | IC TL082CP | |
| IC305 | 8-759-990-82 | IC TL082CP | |

TRANSISTOR

| | | | |
|---|---|---|---|
| Q1 | 8-729-900-74 | TRANSISTOR DTC143TS | |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q11 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q12 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q13 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q14 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q15 | 8-729-926-32 | TRANSISTOR XDA144ES | |
| Q101 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q102 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q103 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q105 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q106 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q107 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q108 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q109 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q110 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q113 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q114 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |
| Q201 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q202 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q203 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q205 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q206 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q207 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q208 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q209 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q210 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q213 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q214 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |
| Q301 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q302 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q303 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q305 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q306 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q307 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q308 | 8-729-384-48 | TRANSISTOR 2SA844-E | |
| Q309 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q310 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q313 | 8-729-600-19 | TRANSISTOR 2SK381-A | |
| Q314 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R2 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R3 | 1-215-493-00 | METAL | 1M | 1% | 1/6W |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R5 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R8 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R9 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R10 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R11 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R12 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R13 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R14 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R15 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R23 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R24 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R25 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R31 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R32 | 1-249-436-11 | CARBON | 39K | 5% | 1/4W |
| R33 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R51 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R52 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R53 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R54 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R55 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R56 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R57 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R58 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |
| R60 | 1-215-465-00 | METAL | 68K | 1% | 1/6W |
| R61 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R101 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R102 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R104 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R105 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R106 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R107 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R108 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R109 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R110 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R111 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R112 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R113 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R114 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R115 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R116 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R117 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R118 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R119 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R120 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R121 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R122 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R123 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R124 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R125 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R127 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R128 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R136 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R137 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R138 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R140 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R141 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R142 | 1-215-455-00 | METAL | 27K | 1% | 1/6W |
| R143 | 1-215-488-00 | METAL | 620K | 1% | 1/6W |
| R144 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R146 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R147 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R201 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R202 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R204 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R205 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R206 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R207 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R208 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R209 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R210 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R211 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R212 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R213 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R214 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R215 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R216 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R217 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R218 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R219 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R220 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R221 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R222 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R223 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R224 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R225 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R227 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R228 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R236 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R237 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R238 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R240 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R241 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R242 | 1-215-455-00 | METAL | 27K | 1% | 1/6W |
| R243 | 1-215-488-00 | METAL | 620K | 1% | 1/6W |
| R244 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R246 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R247 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R301 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R302 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R304 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R305 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R306 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R307 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R308 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R309 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R310 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R311 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R312 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R313 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R314 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R315 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R316 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R317 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R318 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R319 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R320 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R322 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W |
| R323 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R324 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R325 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R327 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R328 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R336 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R337 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R338 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R340 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R341 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R342 | 1-215-455-00 | METAL | 27K | 1% | 1/6W |
| R343 | 1-215-488-00 | METAL | 620K | 1% | 1/6W |
| R344 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R346 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R347 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |

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*A-1135-361-A BJ BOARD, COMPLETE
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*4-353-708-00 HOOK, FINGER
7-682-547-04 SCREW BVTT 3X6 (S)

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C2 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C4 | 1-102-821-00 | CERAMIC | 360PF | 5% | 50V |
| C5 | 1-130-473-00 | MYLAR | 0.0015MF | 5% | 50V |
| C11 | 1-104-302-11 | POLYSTYRENE | 0.001MF | 5% | 50V |
| C12 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C14 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C15 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C16 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C17 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C18 | 1-104-302-11 | POLYSTYRENE | 0.001MF | 5% | 50V |
| C19 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C20 | 1-102-525-11 | CERAMIC | 68PF | 5% | 50V |
| C21 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C22 | 1-101-890-00 | CERAMIC | 75PF | 5% | 50V |
| C23 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C25 | 1-102-811-91 | CERAMIC | 9PF | 1PF | 50V |
| C26 | 1-102-944-00 | CERAMIC | 7PF | 1PF | 50V |
| C27 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C28 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C29 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C30 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C31 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C32 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C33 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C34 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C35 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C36 | 1-102-824-00 | CERAMIC | 470PF | 5% | 50V |
| C37 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C38 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C39 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C40 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C61 | 1-101-888-00 | CERAMIC | 68PF | 5% | 50V |
| C62 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C63 | 1-101-888-00 | CERAMIC | 68PF | 5% | 50V |
| C64 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C65 | 1-102-820-00 | CERAMIC | 330PF | 5% | 50V |
| C66 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C67 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C100 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C102 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C106 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C108 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C109 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C110 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C111 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C112 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C113 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C114 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C115 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C116 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C117 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C118 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C120 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C121 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C122 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C130 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D3 | 8-719-911-19 | DIODE 1SS119 |
| D7 | 8-719-911-19 | DIODE 1SS119 |
| D8 | 8-719-911-19 | DIODE 1SS119 |
| D9 | 8-719-911-19 | DIODE 1SS119 |
| D11 | 8-719-016-42 | DIODE MC932 |

**BJ**

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | IC | | | | |
| IC1 | 8-759-345-38 | IC HD14538BP | | | | |
| IC2 | 8-759-240-01 | IC TC14001BP | | | | |
| IC3 | 8-759-240-40 | IC TC4040BP | | | | |
| IC4 | 8-759-240-40 | IC TC4040BP | | | | |
| IC5 | 8-759-000-35 | IC MC14027BCP | | | | |
| IC6 | 8-759-000-35 | IC MC14027BCP | | | | |
| IC7 | 8-759-000-35 | IC MC14027BCP | | | | |
| IC8 | 8-759-000-35 | IC MC14027BCP | | | | |
| IC9 | 8-759-000-35 | IC MC14027BCP | | | | |
| IC10 | 8-759-345-38 | IC HD14538BP | | | | |
| IC11 | 8-759-345-38 | IC HD14538BP | | | | |
| IC12 | 8-759-345-38 | IC HD14538BP | | | | |
| IC13 | 8-759-240-01 | IC TC14001BP | | | | |
| IC14 | 8-759-240-01 | IC TC14001BP | | | | |
| IC15 | 8-759-240-71 | IC TC14071BP | | | | |
| IC16 | 8-759-040-11 | IC MC14011BCP | | | | |
| IC17 | 8-759-040-11 | IC MC14011BCP | | | | |
| IC18 | 8-759-000-32 | IC MC14023BCP | | | | |
| IC19 | 8-759-240-81 | IC TC14081BP | | | | |
| IC20 | 8-759-240-81 | IC TC14081BP | | | | |
| IC21 | 8-759-240-71 | IC TC14071BP | | | | |
| IC22 | 8-759-240-71 | IC TC14071BP | | | | |
| IC23 | 8-759-040-73 | IC MC14073BCP | | | | |
| IC24 | 8-759-240-69 | IC MC14069UBCP | | | | |
| IC25 | 8-759-240-69 | IC MC14069UBCP | | | | |
| IC26 | 8-759-041-75 | IC MC14175BCP | | | | |
| IC27 | 8-759-040-53 | IC MC14053BCP | | | | |
| IC28 | 8-759-000-77 | IC MC14520BCP | | | | |
| IC29 | 8-759-345-38 | IC HD14538BP | | | | |
| | | COIL | | | | |
| L1 | 1-408-098-00 | INDUCTOR | 560UH | | | |
| L2 | 1-408-098-00 | INDUCTOR | 560UH | | | |
| L3 | 1-408-100-00 | INDUCTOR | 680UH | | | |
| | | TRANSISTOR | | | | |
| Q14 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q15 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q16 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q17 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q18 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q19 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q20 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q21 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q23 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q24 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q25 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q26 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| | | RESISTOR | | | | |
| R2 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R3 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R4 | 1-215-449-00 | METAL | 15K | 1% | 1/6W | |
| R5 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R6 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R7 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R37 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R38 | 1-215-454-00 | METAL | 24K | 1% | 1/6W | |
| R39 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R42 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R43 | 1-247-876-11 | CARBON | 75K | 5% | 1/4W | |
| R44 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R45 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R46 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R47 | 1-247-862-11 | CARBON | 20K | 5% | 1/4W | |
| R48 | 1-215-467-00 | METAL | 82K | 1% | 1/6W | |
| R49 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R50 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R51 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R52 | 1-247-885-00 | CARBON | 180K | 5% | 1/4W | |
| R53 | 1-215-449-00 | METAL | 15K | 1% | 1/6W | |
| R54 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R56 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W | |
| R57 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R58 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R59 | 1-247-836-11 | CARBON | 1.6K | 5% | 1/4W | |
| R60 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R61 | 1-215-449-00 | METAL | 15K | 1% | 1/6W | |
| R62 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R63 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R64 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R65 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R66 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R67 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R68 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R69 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R70 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R71 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R72 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R74 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R75 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R76 | 1-215-463-00 | METAL | 56K | 1% | 1/6W | |
| R77 | 1-215-475-00 | METAL | 180K | 1% | 1/6W | |
| R78 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R79 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R80 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R81 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R82 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | |
| R83 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R85 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R87 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R89 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R90 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R91 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R92 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R93 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R94 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R95 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R96 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R100 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R111 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R112 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R113 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R114 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R115 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R116 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R117 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R118 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R119 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R120 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R121 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R122 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R123 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R124 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R125 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R126 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R127 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R128 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |

# BJ BK

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R129 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV3 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV4 | 1-237-503-21 | RES, ADJ, CERMET 10K |
| RV5 | 1-237-506-21 | RES, ADJ, CERMET 100K |
| RV6 | 1-237-505-21 | RES, ADJ, CERMET 50K |
| RV7 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV8 | 1-237-504-21 | RES, ADJ, CERMET 20K |
| RV9 | 1-237-505-21 | RES, ADJ, CERMET 50K |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |

**********

| | | |
|---|---|---|
| | *A-1135-464-A | BK BOARD, COMPLETE |
| | | ********** |
| | 2-365-226-00 | HEAT SINK |
| | 4-370-970-01 | SPACER, TR |
| | 4-379-411-01 | RETAINER (BK), TR |
| | 4-902-345-01 | HEAT SINK |
| | 7-682-948-01 | SCREW PSW 3X8 |
| | 7-685-646-79 | SCREW BVTP 3X8 TYPE2 IT-3 |

CONNECTOR

| | | |
|---|---|---|
| BK1 | *1-566-056-11 | PIN, CONNECTOR 4P |
| BK2 | *1-566-056-11 | PIN, CONNECTOR 4P |
| BK3 | *1-566-056-11 | PIN, CONNECTOR 4P |
| BK4 | *1-566-055-11 | PIN, CONNECTOR 3P |
| BK5 | *1-566-057-11 | PIN, CONNECTOR 5P |
| BK6 | *1-566-056-11 | PIN, CONNECTOR 4P |
| BK7 | *1-566-056-11 | PIN, CONNECTOR 4P |
| BK8 | *1-566-056-11 | PIN, CONNECTOR 4P |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C10 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C11 | 1-130-483-00 | MYLAR | 0.01MF | 5% | 50V |
| C51 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C52 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C53 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C54 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C55 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C56 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C64 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C65 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C66 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C67 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C68 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C69 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C70 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C71 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C72 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C73 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C74 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C75 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C76 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C80 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C81 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C82 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C83 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C84 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C85 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C86 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C87 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C88 | 1-123-939-00 | ELECT | 10MF | 20% | 200V |
| C91 | 1-102-050-00 | CERAMIC | 0.01MF | 99% | 500V |
| C92 | 1-102-050-00 | CERAMIC | 0.01MF | 99% | 500V |
| C93 | 1-102-050-00 | CERAMIC | 0.01MF | 99% | 500V |
| C100 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C102 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C103 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C104 | 1-136-110-00 | FILM | 0.91MF | 5% | 200V |
| C105 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C106 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C107 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C108 | 1-106-371-00 | MYLAR | 0.015MF | 10% | 200V |
| C109 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C110 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C111 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C112 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C114 | 1-102-936-00 | CERAMIC | 3PF | 0.25PF | 50V |
| C115 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C133 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C200 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C202 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C203 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C204 | 1-136-110-00 | FILM | 0.91MF | 5% | 200V |
| C205 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C206 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C207 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C208 | 1-106-371-00 | MYLAR | 0.015MF | 10% | 200V |
| C209 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C210 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C211 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C212 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C214 | 1-102-936-00 | CERAMIC | 3PF | 0.25PF | 50V |
| C215 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C233 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C300 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C302 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C303 | 1-102-976-00 | CERAMIC | 180PF | 5% | 50V |
| C304 | 1-136-110-00 | FILM | 0.91MF | 5% | 200V |
| C305 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C306 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C307 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C308 | 1-106-371-00 | MYLAR | 0.015MF | 10% | 200V |
| C309 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C310 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C311 | 1-102-965-00 | CERAMIC | 39PF | 5% | 50V |
| C312 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |
| C314 | 1-102-936-00 | CERAMIC | 3PF | 0.25PF | 50V |
| C315 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C333 | 1-102-942-00 | CERAMIC | 5PF | 1PF | 50V |

TRIMMER

| | | |
|---|---|---|
| CV101 | 1-141-179-12 | CAP, VAR, TRIMMER |
| CV102 | 1-141-171-00 | CAP,TRIMMER 15P |
| CV201 | 1-141-179-12 | CAP, VAR, TRIMMER |
| CV202 | 1-141-171-00 | CAP,TRIMMER 15P |
| CV301 | 1-141-179-12 | CAP, VAR, TRIMMER |
| CV302 | 1-141-171-00 | CAP,TRIMMER 15P |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D101 | 8-719-911-19 | DIODE 1SS119 |

BK

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| D102 | 8-719-911-19 | DIODE 1SS119 | |
| D103 | 8-719-911-19 | DIODE 1SS119 | |
| D104 | 8-719-911-19 | DIODE 1SS119 | |
| D105 | 8-719-911-19 | DIODE 1SS119 | |
| D106 | 8-719-911-19 | DIODE 1SS119 | |
| D107 | 8-719-911-19 | DIODE 1SS119 | |
| D108 | 8-719-911-19 | DIODE 1SS119 | |
| D109 | 8-719-901-83 | DIODE 1SS83 | |
| D110 | 8-719-300-80 | DIODE RU-1C | |
| D111 | 8-719-300-80 | DIODE RU-1C | |
| D112 | 8-719-911-19 | DIODE 1SS119 | |
| D113 | 8-719-911-19 | DIODE 1SS119 | |
| D114 | 8-719-911-19 | DIODE 1SS119 | |
| D115 | 8-719-911-19 | DIODE 1SS119 | |
| D116 | 8-719-911-19 | DIODE 1SS119 | |
| D201 | 8-719-911-19 | DIODE 1SS119 | |
| D202 | 8-719-911-19 | DIODE 1SS119 | |
| D203 | 8-719-911-19 | DIODE 1SS119 | |
| D204 | 8-719-911-19 | DIODE 1SS119 | |
| D205 | 8-719-911-19 | DIODE 1SS119 | |
| D206 | 8-719-911-19 | DIODE 1SS119 | |
| D207 | 8-719-911-19 | DIODE 1SS119 | |
| D208 | 8-719-911-19 | DIODE 1SS119 | |
| D209 | 8-719-901-83 | DIODE 1SS83 | |
| D210 | 8-719-300-80 | DIODE RU-1C | |
| D211 | 8-719-300-80 | DIODE RU-1C | |
| D212 | 8-719-911-19 | DIODE 1SS119 | |
| D213 | 8-719-911-19 | DIODE 1SS119 | |
| D214 | 8-719-911-19 | DIODE 1SS119 | |
| D215 | 8-719-911-19 | DIODE 1SS119 | |
| D216 | 8-719-911-19 | DIODE 1SS119 | |
| D301 | 8-719-911-19 | DIODE 1SS119 | |
| D302 | 8-719-911-19 | DIODE 1SS119 | |
| D303 | 8-719-911-19 | DIODE 1SS119 | |
| D304 | 8-719-911-19 | DIODE 1SS119 | |
| D305 | 8-719-911-19 | DIODE 1SS119 | |
| D306 | 8-719-911-19 | DIODE 1SS119 | |
| D307 | 8-719-911-19 | DIODE 1SS119 | |
| D308 | 8-719-911-19 | DIODE 1SS119 | |
| D309 | 8-719-901-83 | DIODE 1SS83 | |
| D310 | 8-719-300-80 | DIODE RU-1C | |
| D311 | 8-719-300-80 | DIODE RU-1C | |
| D312 | 8-719-911-19 | DIODE 1SS119 | |
| D313 | 8-719-911-19 | DIODE 1SS119 | |
| D314 | 8-719-911-19 | DIODE 1SS119 | |
| D315 | 8-719-911-19 | DIODE 1SS119 | |
| D316 | 8-719-911-19 | DIODE 1SS119 | |

IC

| | | | |
|---|---|---|---|
| IC1 | 8-759-945-58 | IC RC4558P | |

TRANSISTOR

| | | | |
|---|---|---|---|
| Q1 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q12 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |
| Q13 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |
| Q101 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q102 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q103 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q104 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q105 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q106 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q107 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q108 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q109 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q110 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q111 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q112 | 8-729-255-12 | TRANSISTOR 2SC2551-O | |
| Q113 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q114 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q115 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q201 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q202 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q203 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q204 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q205 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q206 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q207 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q208 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q209 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q210 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q211 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q212 | 8-729-255-12 | TRANSISTOR 2SC2551-O | |
| Q213 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q214 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q215 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q301 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q302 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q303 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q304 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q305 | 8-729-384-48 | TRANSISTOR 2SA844 | |
| Q306 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q307 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q308 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q309 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q310 | 8-729-804-58 | TRANSISTOR 2SC3600-E | |
| Q311 | 8-729-804-63 | TRANSISTOR 2SA1406-E | |
| Q312 | 8-729-255-12 | TRANSISTOR 2SC2551-O | |
| Q313 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q314 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q315 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |

RESISTOR

| | | | | | | |
|---|---|---|---|---|---|---|
| R1 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R2 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R3 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R10 | 1-215-878-00 | METAL OXIDE | 33K | 5% | 1W | F |
| R11 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R12 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R13 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R14 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R15 | 1-215-461-00 | METAL | 47K | 1% | 1/6W | |
| R16 | 1-215-447-00 | METAL | 12K | 1% | 1/6W | |
| R101 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R102 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R104 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R105 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R106 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R107 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R108 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R109 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R110 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R111 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R112 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R113 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R114 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R115 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R116 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R117 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R118 | 1-214-781-00 | METAL | 150K | 1% | 1/4W | |
| R119 | 1-215-447-00 | METAL | 12K | 1% | 1/6W | |
| R120 | 1-216-430-11 | METAL OXIDE | 390 | 5% | 1W | F |

# BK BR

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R121 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R122 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R123 | 1-215-405-00 | METAL | 220 | 1% | 1/6W | |
| R124 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R125 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R126 | 1-215-394-00 | METAL | 75 | 1% | 1/4W | |
| R127 | 1-215-394-00 | METAL | 75 | 1% | 1/4W | |
| R128 | 1-214-779-00 | METAL | 120K | 1% | 1/4W | |
| R129 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R130 | 1-216-443-11 | METAL OXIDE | 56K | 5% | 1W | F |
| R131 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R132 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R133 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R134 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R135 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R136 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R137 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R138 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R139 | 1-215-441-00 | METAL | 6.8K | 1% | 1/6W | |
| R140 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R141 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R142 | 1-249-390-11 | CARBON | 5.6 | 5% | 1/4W | |
| R143 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R201 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R202 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R204 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R205 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R206 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R207 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R208 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R209 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R210 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R211 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R212 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R213 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R214 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R215 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R216 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R217 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R218 | 1-214-781-00 | METAL | 150K | 1% | 1/4W | |
| R219 | 1-215-447-00 | METAL | 12K | 1% | 1/6W | |
| R220 | 1-216-430-11 | METAL OXIDE | 390 | 5% | 1W | F |
| R221 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R222 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R223 | 1-215-405-00 | METAL | 220 | 1% | 1/6W | |
| R224 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R225 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R226 | 1-215-394-00 | METAL | 75 | 1% | 1/6W | |
| R227 | 1-215-394-00 | METAL | 75 | 1% | 1/6W | |
| R228 | 1-214-779-00 | METAL | 120K | 1% | 1/4W | |
| R229 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R230 | 1-216-443-11 | METAL OXIDE | 56K | 5% | 1W | F |
| R231 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R232 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R233 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R234 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R235 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R236 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R237 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R238 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R239 | 1-215-441-00 | METAL | 6.8K | 1% | 1/6W | |
| R240 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R241 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R242 | 1-249-390-11 | CARBON | 5.6 | 5% | 1/4W | |
| R243 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R301 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R302 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R304 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R305 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R306 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R307 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R308 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R309 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R310 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R311 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R312 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R313 | 1-215-391-00 | METAL | 56 | 1% | 1/6W | |
| R314 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R315 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R316 | 1-214-765-00 | METAL | 33K | 1% | 1/4W | |
| R317 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R318 | 1-214-781-00 | METAL | 150K | 1% | 1/4W | |
| R319 | 1-215-447-00 | METAL | 12K | 1% | 1/6W | |
| R320 | 1-216-430-11 | METAL OXIDE | 390 | 5% | 1W | F |
| R321 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R322 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R323 | 1-215-405-00 | METAL | 220 | 1% | 1/6W | |
| R324 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R325 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R326 | 1-215-394-00 | METAL | 75 | 1% | 1/6W | |
| R327 | 1-215-394-00 | METAL | 75 | 1% | 1/6W | |
| R328 | 1-214-779-00 | METAL | 120K | 1% | 1/4W | |
| R329 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R330 | 1-216-443-11 | METAL OXIDE | 56K | 5% | 1W | F |
| R331 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R332 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R333 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R334 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R335 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R336 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R337 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R338 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R339 | 1-215-441-00 | METAL | 6.8K | 1% | 1/6W | |
| R340 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R341 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R342 | 1-249-390-11 | CARBON | 5.6 | 5% | 1/4W | |
| R343 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |

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*A-1135-472-A BR BOARD, COMPLETE

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(BVM-2010PD/PMD ONLY)

4-353-708-00 HOOK, FINGER

7-682-547-04 SCREW BVTT 3X6 (S)

CONNECTOR

| | | | |
|---|---|---|---|
| BR1 | *1-566-060-11 | PIN, CONNECTOR 8P | |
| BR101 | *1-566-054-11 | PIN, CONNECTOR 2P | |
| BR201 | *1-566-054-11 | PIN, CONNECTOR 2P | |
| BR301 | *1-566-054-11 | PIN, CONNECTOR 2P | |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C2 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C3 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C4 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C5 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C6 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C7 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C8 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |

**BR**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C9 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C10 | 1-101-888-00 | CERAMIC | 68PF | 5% | 50V |
| C11 | 1-102-960-00 | CERAMIC | 24PF | 5% | 50V |
| C12 | 1-102-856- | CERAMIC | 5PF | 0.5PF | 50V |
| C13 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C14 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C101 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C102 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C103 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C201 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C202 | 1-102-937-00 | CERAMIC | 4PF | 0.25PF | 50V |
| C203 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C301 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C302 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C303 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C400 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C401 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C402 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C403 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C404 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C405 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C406 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C407 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C408 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C411 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C412 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C413 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C414 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C415 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C416 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C417 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C418 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C419 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C421 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C422 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C426 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C427 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C430 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C431 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C432 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C433 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C434 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C435 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C436 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C437 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C441 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C442 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C443 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C444 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C445 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C446 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C447 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C451 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C452 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |

TRIMMER

| | | |
|---|---|---|
| CV301 | 1-141-171-00 | CAP,TRIMMER 15P |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D3 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-911-19 | DIODE 1SS119 |
| D5 | 8-719-911-19 | DIODE 1SS119 |
| D6 | 8-719-911-19 | DIODE 1SS119 |
| D7 | 8-719-911-19 | DIODE 1SS119 |
| D8 | 8-719-911-19 | DIODE 1SS119 |
| D9 | 8-719-911-19 | DIODE 1SS119 |
| D10 | 8-719-911-19 | DIODE 1SS119 |
| D11 | 8-719-911-19 | DIODE 1SS119 |
| D102 | 8-719-911-19 | DIODE 1SS119 |
| D202 | 8-719-911-19 | DIODE 1SS119 |
| D301 | 8-719-109-74 | DIODE RD4.3ES-B1 |
| D302 | 8-719-911-19 | DIODE 1SS119 |

IC

| | | |
|---|---|---|
| IC1 | 8-759-040-53 | IC TC14053BCP |
| IC101 | 8-759-603-24 | IC CX20197 |
| IC201 | 8-759-603-24 | IC CX20197 |

COIL

| | | | |
|---|---|---|---|
| L1 | 1-408-417-00 | INDUCTOR | 47UH |
| L2 | 1-408-413-00 | INDUCTOR | 22UH |

TRANSISTOR

| | | |
|---|---|---|
| Q1 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q4 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q5 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q6 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q7 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q9 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q10 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q11 | 8-729-800-10 | TRANSISTOR 2SC3068 |
| Q12 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q101 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q104 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q105 | 8-729-800-10 | TRANSISTOR 2SC3068 |
| Q201 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q204 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q205 | 8-729-800-10 | TRANSISTOR 2SC3068 |
| Q301 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q302 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q303 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q304 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q305 | 8-729-800-10 | TRANSISTOR 2SC3068 |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R2 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R3 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R4 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R5 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R6 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R7 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R8 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R9 | 1-215-461-00 | METAL | 47K | 1% | 1/4W |
| R10 | 1-215-463-00 | METAL | 56K | 1% | 1/6W |
| R11 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R12 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R13 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R14 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R15 | 1-215-435-00 | METAL | 3.9K | 1% | 1/6W |
| R16 | 1-215-463-00 | METAL | 56K | 1% | 1/6W |
| R17 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R18 | 1-215-430-00 | METAL | 2.4K | 1% | 1/6W |
| R19 | 1-215-430-00 | METAL | 2.4K | 1% | 1/6W |
| R20 | 1-215-424-00 | METAL | 1.3K | 1% | 1/6W |
| R21 | 1-215-450-00 | METAL | 16K | 1% | 1/6W |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

# BR C DA

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R22 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R23 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R24 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R25 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R27 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R28 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R29 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R30 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R101 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R102 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R103 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R104 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R105 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R106 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R113 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R114 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R115 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R201 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R202 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R203 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R204 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R205 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R206 | 1-215-429-00 | METAL | 2.2K | 1% | 1/6W |
| R213 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R214 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R215 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R301 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R302 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R303 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R304 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R305 | 1-215-441-00 | METAL | 6.8K | 1% | 1/6W |
| R306 | 1-215-417-00 | METAL | 680 | 1% | 1/6W |
| R307 | 1-247-850-11 | CARBON | 6.2K | 5% | 1/4W |
| R308 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R309 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R310 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R311 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R312 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R313 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R314 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R315 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |

VARIABLE RESISTOR

| | | | |
|---|---|---|---|
| RV1 | 1-237-500-21 | RES, ADJ, CERMET | 1K |
| RV101 | 1-237-502-21 | RES, ADJ, CERMET | 5K |
| RV102 | 1-237-500-21 | RES, ADJ, CERMET | 1K |
| RV201 | 1-237-502-21 | RES, ADJ, CERMET | 5K |
| RV202 | 1-237-500-21 | RES, ADJ, CERMET | 1K |
| RV301 | 1-237-502-21 | RES, ADJ, CERMET | 5K |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |
| S2 | 1-570-857-11 | SWITCH, SLIDE |
| S3 | 1-570-851-11 | SWITCH, SLIDE |

**********

*1-617-889-11 C BOARD
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*1-526-771-11 SOCKET, CRT
1-556-880-81 LEAD ASSY, HIGH-VOLTAGE

CAPACITOR

| | | | | |
|---|---|---|---|---|
| C1 | 1-162-114-00 | CERAMIC | 0.0047MF | 2KV |
| C2 | 1-162-114-00 | CERAMIC | 0.0047MF | 2KV |

CONNECTOR

| | | |
|---|---|---|
| C1 | *1-566-054-11 | PIN, CONNECTOR 2P |
| C2 | *1-566-056-11 | PIN, CONNECTOR 4P |
| C3 | *1-566-054-11 | PIN, CONNECTOR 2P |
| C4 | *1-566-056-11 | PIN, CONNECTOR 4P |
| C5 | *1-566-054-11 | PIN, CONNECTOR 2P |
| C6 | *1-566-056-11 | PIN, CONNECTOR 4P |
| C7 | 1-508-765-00 | PIN, CONNECTOR 3P PLUG(M) |
| C8 | *1-508-786-00 | PIN, CONNECTOR 2P PLUG(M) |

COIL

| | | | |
|---|---|---|---|
| L1 | 1-408-408-00 | INDUCTOR | 8.2UH |
| L2 | 1-408-408-00 | INDUCTOR | 8.2UH |
| L3 | 1-408-408-00 | INDUCTOR | 8.2UH |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R2 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R3 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R4 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R5 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R6 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R7 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R8 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R9 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R10 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R11 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |
| R12 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R13 | 1-202-818-00 | SOLID | 1K | 10% | 1/2W |

SPARK GAP

| | | |
|---|---|---|
| SG1 | 1-519-063-XX | DISCHARGING GAP |
| SG2 | 1-519-063-XX | DISCHARGING GAP |
| SG3 | 1-519-063-XX | DISCHARGING GAP |
| SG4 | 1-519-063-XX | DISCHARGING GAP |
| SG5 | 1-519-063-XX | DISCHARGING GAP |
| SG6 | 1-519-063-XX | DISCHARGING GAP |
| SG7 | 1-519-063-XX | DISCHARGING GAP |

**********

*A-1345-736-A DA BOARD, COMPLETE
**********

1-566-054-11 PIN, CONNECTOR 2P
3-618-225-00 NUT, PLATE
4-026-910-00 HOLDER, LED
7-682-548-04 SCREW P 3X8

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C2 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C3 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C4 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C5 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C6 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C7 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C8 | 1-102-527-11 | CERAMIC | 82PF | 5% | 50V |
| C9 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C10 | 1-106-188-51 | MYLAR | 0.0047MF | 5% | 100V |
| C11 | 1-130-738-00 | FILM | 0.015MF | 5% | 100V |
| C12 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |
| C13 | 1-136-155-00 | FILM | 0.015MF | 5% | 50V |
| C14 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |

**DA**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C15 | 1-130-479-00 | MYLAR | 0.0047MF | 5% | 50V |
| C16 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C17 | 1-124-234-00 | ELECT | 22MF | 20% | 16V |
| C18 | 1-124-234-00 | ELECT | 22MF | 20% | 16V |
| C19 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C20 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C21 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C22 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C23 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C24 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C25 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C26 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C27 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C28 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C29 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C30 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C31 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C32 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C33 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C34 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C35 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C36 | 1-102-824-00 | CERAMIC | 470PF | 5% | 50V |
| C38 | 1-102-824-00 | CERAMIC | 470PF | 5% | 50V |
| C39 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C40 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C41 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C42 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C43 | 1-126-301-11 | ELECT | 1MF | 20% | 50V |
| C44 | 1-124-465-00 | ELECT | 0.47MF | 20% | 50V |
| C45 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C46 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C47 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C48 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C49 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C50 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C51 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C52 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C53 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C54 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C55 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C56 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C57 | 1-136-474-11 | FILM | 0.1MF | 5% | 100V |
| C58 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C59 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C60 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C61 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C62 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C63 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C64 | 1-130-871-11 | FILM | 0.01MF | 5% | 50V |
| C65 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C66 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C67 | 1-126-163-11 | ELECT | 4.7MF | 20% | 25V |
| C68 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C69 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C70 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C71 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C72 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C73 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C74 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C75 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C76 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C77 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C78 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C80 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C90 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C100 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C101 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C102 | 1-102-978-00 | CERAMIC | 220PF | 5% | 50V |

### DIODE

| | | | |
|---|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 | |
| D2 | 8-719-911-19 | DIODE 1SS119 | |
| D3 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D4 | 8-719-109-97 | DIODE RD6.8ES-B2 | |
| D5 | 8-719-110-31 | DIODE RD12ES-B2 | |
| D6 | 8-719-110-31 | DIODE RD12ES-B2 | |
| D7 | 8-719-911-19 | DIODE 1SS119 | |
| D8 | 8-719-911-19 | DIODE 1SS119 | |
| D9 | 8-719-110-03 | DIODE RD7.5ES-B2 | |
| D10 | 8-719-110-03 | DIODE RD7.5ES-B2 | |
| D11 | 8-719-110-41 | DIODE RD15ES-B2 | |
| D12 | 8-719-109-89 | DIODE RD5.6ES-B2 | |
| D13 | 8-719-911-19 | DIODE 1SS119 | |
| D14 | 8-719-911-19 | DIODE 1SS119 | |
| D15 | 8-719-911-19 | DIODE 1SS119 | |
| D18 | 8-719-911-19 | DIODE 1SS119 | |
| D19 | 8-719-911-19 | DIODE 1SS119 | |

### CONNECTOR

| | | |
|---|---|---|
| DA1 | *1-566-060-11 | PIN, CONNECTOR 8P |
| DA2 | *1-566-056-11 | PIN, CONNECTOR 4P |
| DA3 | *1-566-062-11 | PIN, CONNECTOR 10P |
| DA4 | *1-566-058-11 | PIN, CONNECTOR 6P |
| DA5 | *1-566-055-11 | PIN, CONNECTOR 3P |
| DA6 | *1-566-058-11 | PIN, CONNECTOR 6P |
| DA7 | *1-566-056-11 | PIN, CONNECTOR 4P |

### IC

| | | |
|---|---|---|
| IC1 | 8-759-984-27 | IC MB84027B |
| IC2 | 8-759-140-11 | IC MC14011BCP |
| IC3 | 8-759-000-58 | IC MC14093BCP |
| IC4 | 8-751-580-00 | IC CX-158 |
| IC5 | 8-759-990-82 | IC TL082CP |
| IC6 | 8-759-990-82 | IC TL082CP |
| IC7 | 8-759-014-96 | IC MC1496P |
| IC8 | 8-759-981-64 | IC LM2903DQ |
| IC9 | 8-759-990-82 | IC TL082CP |
| IC10 | 8-759-981-64 | IC LM2903DQ |
| IC11 | 8-759-990-82 | IC TL082CP |
| IC12 | 8-759-014-96 | IC MC1496P |
| IC13 | 8-759-000-49 | IC MC14066BCP |
| IC14 | 8-759-000-49 | IC MC14066BCP |
| IC15 | 8-759-000-49 | IC MC14066BCP |
| IC16 | 8-759-000-49 | IC MC14066BCP |
| IC17 | 8-759-945-58 | IC RC4558DQ |
| IC18 | 8-759-909-70 | IC CX23025 |
| IC19 | 8-759-945-58 | IC RC4558DQ |
| IC20 | 8-759-945-58 | IC RC4558DQ |
| IC21 | 8-759-945-58 | IC RC4558DQ |
| IC22 | 8-759-945-58 | IC RC4558DQ |
| IC23 | 8-759-945-58 | IC RC4558DQ |
| IC24 | 8-759-929-62 | IC LM7812CT |
| IC25 | 8-759-929-65 | IC LM7912CT |
| IC26 | 8-759-990-82 | IC TL082CP |

### COIL

| | | | |
|---|---|---|---|
| L1 | 1-407-504-00 | INDUCTOR | 10MMH |

# DA

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | | **TRANSISTOR** | | | | |
| Q1 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q4 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q5 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q6 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q7 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q8 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q9 | 8-729-800-10 | TRANSISTOR 2SC3068 | | | | |
| Q10 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q12 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q13 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q14 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q15 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q16 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q17 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q18 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q19 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q20 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q21 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q23 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q24 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| | | **RESISTOR** | | | | |
| R1 | 1-215-461-00 | METAL | 47K | 1% | 1/6W | |
| R2 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R3 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R4 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R5 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R6 | 1-247-840-00 | CARBON | 2.4K | 5% | 1/4W | |
| R7 | 1-215-462-00 | METAL | 51K | 1% | 1/6W | |
| R8 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R9 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R10 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R11 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R12 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R13 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R14 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R15 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W | |
| R16 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R17 | 1-215-427-00 | METAL | 1.8K | 1% | 1/6W | |
| R18 | 1-215-435-00 | METAL | 3.9K | 1% | 1/6W | |
| R19 | 1-215-443-00 | METAL | 8.2K | 1% | 1/6W | |
| R20 | 1-249-400-11 | CARBON | 39 | 5% | 1/4W | F |
| R21 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R22 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R23 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R24 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R25 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R26 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R27 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R28 | 1-215-421-00 | METAL | 1K | 1% | 1/6W | |
| R29 | 1-215-458-00 | METAL | 36K | 1% | 1/6W | |
| R30 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R31 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R32 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R33 | 1-247-848-11 | CARBON | 5.1K | 5% | 1/4W | |
| R34 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R35 | 1-247-800-11 | CARBON | 51 | 5% | 1/4W | |
| R36 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R37 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R38 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R39 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R40 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R41 | 1-247-800-11 | CARBON | 51 | 5% | 1/4W | |
| R42 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R43 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R44 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R45 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R46 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R47 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W | |
| R48 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R49 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R50 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R51 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R52 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R53 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R54 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R55 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R56 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R57 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R58 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R59 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R60 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R61 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R62 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R63 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R64 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R65 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R66 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R67 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R68 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R69 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R70 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R71 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R72 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R74 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R76 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R77 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W | |
| R79 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R80 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R81 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R82 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R83 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R84 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R85 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R86 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R87 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R88 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R89 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R90 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R91 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R92 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R93 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R94 | 1-247-848-11 | CARBON | 5.1K | 5% | 1/4W | |
| R95 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R96 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R97 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R98 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R99 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R100 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R101 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R102 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R103 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R104 | 1-247-800-11 | CARBON | 51 | 5% | 1/4W | |
| R105 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R106 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R107 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |

DA

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R109 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R110 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R111 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R112 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W |
| R113 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R114 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R115 | 1-247-830-11 | CARBON | 910 | 5% | 1/4W |
| R116 | 1-247-830-11 | CARBON | 910 | 5% | 1/4W |
| R117 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R118 | 1-215-449-00 | METAL | 15K | 1% | 1/6W |
| R119 | 1-215-454-00 | METAL | 24K | 1% | 1/6W |
| R120 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R121 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R122 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R123 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R124 | 1-215-433-00 | METAL | 3.3K | 1% | 1/6W |
| R125 | 1-215-443-00 | METAL | 8.2K | 1% | 1/6W |
| R126 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R127 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R128 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R129 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R130 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R131 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R132 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R133 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R134 | 1-215-447-00 | METAL | 12K | 1% | 1/6W |
| R135 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R136 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R137 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R138 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R139 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R140 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R141 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R142 | 1-215-457-00 | METAL | 33K | 1% | 1/6W |
| R143 | 1-215-457-00 | METAL | 33K | 1% | 1/4W |
| R144 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R145 | 1-215-481-00 | METAL | 330K | 1% | 1/6W |
| R146 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R147 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R148 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R149 | 1-215-421-00 | METAL | 1K | 1% | 1/6W |
| R150 | 1-215-457-00 | METAL | 33K | 1% | 1/6W |
| R151 | 1-215-457-00 | METAL | 33K | 1% | 1/6W |
| R152 | 1-215-481-00 | METAL | 330K | 1% | 1/6W |
| R153 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R154 | 1-215-413-00 | METAL | 470 | 1% | 1/6W |
| R155 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R156 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R157 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R158 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R159 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R160 | 1-247-897-11 | CARBON | 560K | 5% | 1/4W |
| R161 | 1-215-455-00 | METAL | 27K | 1% | 1/4W |
| R162 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R163 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R164 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R165 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R166 | 1-215-485-00 | METAL | 470K | 1% | 1/6W |
| R167 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R168 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R169 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R170 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R171 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R172 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R173 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R174 | 1-215-457-00 | METAL | 33K | 1% | 1/6W |
| R175 | 1-215-457-00 | METAL | 33K | 1% | 1/6W |
| R176 | 1-215-481-00 | METAL | 330K | 1% | 1/6W |
| R177 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R178 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R179 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R180 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R181 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R182 | 1-215-451-00 | METAL | 18K | 1% | 1/6W |
| R183 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R184 | 1-215-477-00 | METAL | 220K | 1% | 1/6W |
| R185 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R186 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R187 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W |
| R188 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W |
| R189 | 1-215-405-00 | METAL | 220 | 1% | 1/6W |
| R190 | 1-215-433-00 | METAL | 3.3K | 1% | 1/6W |
| R191 | 1-215-405-00 | METAL | 220 | 1% | 1/6W |
| R192 | 1-215-433-00 | METAL | 3.3K | 1% | 1/6W |
| R193 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R194 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R195 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R196 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R197 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R198 | 1-215-475-00 | METAL | 180K | 1% | 1/6W |
| R200 | 1-215-445-00 | METAL | 10K | 1% | 1/4W |
| R201 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R202 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R203 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R204 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R205 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R206 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R207 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R208 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R209 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R210 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R211 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R220 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |
| R221 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W |
| R223 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R224 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R290 | 1-215-443-00 | METAL | 8.2K | 1% | 1/6W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-521-21 | RES, ADJ, CERMET 100K |
| RV2 | 1-237-522-21 | RES, ADJ, CERMET 200K |
| RV3 | 1-237-521-21 | RES, ADJ, CERMET 100K |
| RV4 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV5 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV6 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV7 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV10 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV11 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV12 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV13 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV14 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV15 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV16 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV17 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV18 | 1-237-517-21 | RES, ADJ, CERMET 5K |
| RV19 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV20 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV21 | 1-237-519-21 | RES, ADJ, CERMET 20K |
| RV22 | 1-237-516-21 | RES, ADJ, CERMET 2K |
| RV23 | 1-237-516-21 | RES, ADJ, CERMET 2K |

# DA | DB

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| RV24 | 1-237-516-21 | RES, ADJ, CERMET 2K | | | |
| RV25 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV26 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV27 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV28 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| | | SWITCH | | | |
| S1 | 1-571-908-11 | SWITCH, SLIDE | | | |
| ********** | | | | | |
| | *A-1345-732-A | DB BOARD, COMPLETE | | | |
| | | ********** | | | |
| | 3-618-225-00 | NUT, PLATE | | | |
| | 7-682-548-04 | SCREW P 3X8 | | | |
| | | CAPACITOR | | | |
| C3 | 1-102-963-00 | CERAMIC | 33PF | 5% | 50V |
| C4 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C5 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C6 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C7 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C8 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C9 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C10 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C11 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C12 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C13 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C14 | 1-102-824-00 | CERAMIC | 470PF | 5% | 50V |
| C15 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C16 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C17 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C18 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C19 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C20 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C21 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C22 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C23 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |
| C24 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C25 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C26 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C27 | 1-163-157-00 | FILM | 0.022MF | 5% | 50V |
| C28 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C29 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C30 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C31 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C32 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C33 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C34 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C35 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C36 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C37 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C38 | 1-102-824-00 | CERAMIC | 470PF | 5% | 50V |
| C39 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C40 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C41 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C42 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C43 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C44 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C45 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C46 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C47 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C48 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C49 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C50 | 1-108-794-11 | MYLAR | 0.0015MF | 5% | 50V |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C51 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C52 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C53 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C54 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C55 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C56 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C57 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C58 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C59 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C60 | 1-136-169-00 | FILM | 0.22MF | 5% | 50V |
| C61 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C62 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C63 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C64 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C65 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| C66 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C67 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C68 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C69 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C70 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C71 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C72 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C73 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C74 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C75 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C76 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C77 | 1-126-096-11 | ELECT | 10MF | 20% | 25V |
| C78 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C81 | 1-102-121-00 | CERAMIC | 0.0022MF | 10% | 50V |
| C83 | 1-136-155-00 | FILM | 0.15MF | 5% | 50V |
| C84 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C87 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C88 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C89 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| | | DIODE | | | |
| D2 | 8-719-110-41 | DIODE RD15ES-B2 | | | |
| D3 | 8-719-911-19 | DIODE 1SS119 | | | |
| D4 | 8-719-911-19 | DIODE 1SS119 | | | |
| D5 | 8-719-911-19 | DIODE 1SS119 | | | |
| D6 | 8-719-110-03 | DIODE RD7.5ES-B2 | | | |
| D7 | 8-719-110-03 | DIODE RD7.5ES-B2 | | | |
| D8 | 8-719-109-97 | DIODE RD6.8ESB2 | | | |
| | | CONNECTOR | | | |
| DB1 | *1-566-062-11 | PIN, CONNECTOR 10P | | | |
| DB2 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| DB3 | *1-566-055-11 | PIN, CONNECTOR 3P | | | |
| DB4 | *1-566-055-11 | PIN, CONNECTOR 3P | | | |
| DB5 | *1-566-055-11 | PIN, CONNECTOR 3P | | | |
| DB6 | *1-566-062-11 | PIN, CONNECTOR 10P | | | |
| DB7 | *1-566-062-11 | PIN, CONNECTOR 10P | | | |
| | | IC | | | |
| IC1 | 8-759-945-58 | IC RC4558P | | | |
| IC2 | 8-759-945-58 | IC RC4558P | | | |
| IC3 | 8-759-945-58 | IC RC4558P | | | |
| IC4 | 8-759-945-58 | IC RC4558P | | | |
| IC5 | 8-759-945-58 | IC RC4558P | | | |
| IC6 | 8-759-945-58 | IC RC4558P | | | |
| IC7 | 8-759-945-58 | IC RC4558P | | | |
| IC8 | 8-759-945-58 | IC RC4558P | | | |
| IC11 | 8-759-140-53 | IC MC14053BCP | | | |
| IC12 | 8-759-945-58 | IC RC4558P | | | |
| IC13 | 8-759-929-62 | IC LM7812CT | | | |

DB

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| IC14 | 8-759-929-65 | IC LM7912CT | |
| IC15 | 8-759-345-38 | IC HD14538BP | |
| IC16 | 8-759-981-64 | IC LM2903DQ | |
| | | COIL | |
| L1 | 1-408-236-00 | INDUCTOR 2.7MMH | |
| L2 | 1-408-236-00 | INDUCTOR 2.7MMH | |
| L3 | 1-408-238-00 | INDUCTOR 3.9MMH | |
| L4 | 1-408-237-00 | INDUCTOR 3.3MMH | |
| | | TRANSISTOR | |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q4 | 8-729-900-63 | TRANSISTOR DTC124ES | |
| Q5 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q6 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q7 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q8 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q9 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q10 | 8-729-900-63 | TRANSISTOR DTC124ES | |
| Q11 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q12 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q13 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q14 | 8-729-900-63 | TRANSISTOR DTC124ES | |
| Q15 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q16 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q17 | 8-729-900-63 | TRANSISTOR DTC124ES | |
| Q18 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q19 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q20 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q21 | 8-729-201-05 | TRANSISTOR 2SC2878-B | |
| Q22 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q23 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q24 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q25 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q26 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q27 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q28 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q29 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q30 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q31 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q32 | 8-729-106-07 | TRANSISTOR 2SK514-M | |
| Q33 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q34 | 8-729-173-38 | TRANSISTOR 2SA733-K | |
| Q35 | 8-729-173-38 | TRANSISTOR 2SA733-K | |
| Q36 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q37 | 8-729-900-63 | TRANSISTOR DTC124ES | |
| Q38 | 8-729-173-38 | TRANSISTOR 2SA733-K | |
| Q40 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q41 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q43 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q44 | 8-729-173-38 | TRANSISTOR 2SA733-K | |
| | | RESISTOR | |
| R3 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R4 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R5 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R6 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R7 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R8 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R9 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R10 | 1-215-467-00 | METAL 82K 1% 1/6W | |
| R11 | 1-215-439-00 | METAL 5.6K 1% 1/6W | |
| R12 | 1-215-477-00 | METAL 220K 1% 1/6W | |
| R13 | 1-249-429-11 | CARBON 10K 5% 1/4W | |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| R14 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R15 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R16 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R17 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R18 | 1-215-477-00 | METAL 220K 1% 1/6W | |
| R19 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R20 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R21 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R22 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R23 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R24 | 1-215-453-00 | METAL 22K 1% 1/6W | |
| R25 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R26 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R27 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R28 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R29 | 1-249-435-11 | CARBON 33K 5% 1/4W | |
| R30 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R31 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R32 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R33 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R34 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R35 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R36 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R37 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R38 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R39 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R40 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R42 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R43 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R44 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R45 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R46 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R47 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R48 | 1-247-895-00 | CARBON 470K 5% 1/4W | |
| R49 | 1-215-451-00 | METAL 18K 1% 1/6W | |
| R50 | 1-215-451-00 | METAL 18K 1% 1/6W | |
| R51 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R52 | 1-215-451-00 | METAL 18K 1% 1/6W | |
| R53 | 1-247-895-00 | CARBON 470K 5% 1/4W | |
| R54 | 1-215-451-00 | METAL 18K 1% 1/6W | |
| R55 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R57 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R58 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R59 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R60 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R61 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R62 | 1-215-445-00 | METAL 10K 1% 1/6W | |
| R63 | 1-215-453-00 | METAL 22K 1% 1/6W | |
| R64 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R65 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R66 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R67 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R68 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R69 | 1-249-435-11 | CARBON 33K 5% 1/4W | |
| R70 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R71 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R72 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R73 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R74 | 1-247-903-00 | CARBON 1M 5% 1/4W | |
| R75 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R76 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R77 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R78 | 1-215-469-00 | METAL 100K 1% 1/6W | |
| R79 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R80 | 1-249-417-11 | CARBON 1K 5% 1/4W | |

**DB** **DC**

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R81 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R82 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R83 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R84 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R85 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R86 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R87 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R88 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W | |
| R89 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W | |
| R90 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R91 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R92 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R93 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R94 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R95 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R96 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R97 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R98 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R99 | 1-249-412-11 | CARBON | 390 | 5% | 1/4W | |
| R100 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R101 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R102 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W | |
| R103 | 1-247-895-00 | CARBON | 470K | 5% | 1/4W | |
| R104 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R105 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R106 | 1-215-397-00 | METAL | 100 | 1% | 1/6W | |
| R107 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | F |
| R108 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | F |
| R109 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R110 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R111 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R112 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R113 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R114 | 1-215-441-00 | METAL | 6.8K | 1% | 1/6W | |
| R115 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R116 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R117 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R118 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R120 | 1-215-421-00 | METAL | 1K | 1% | 1/6W | |
| R121 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R122 | 1-215-461-00 | METAL | 47K | 1% | 1/6W | |
| R123 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R124 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R125 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R126 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R128 | 1-202-669-15 | SOLID | 10M | 5% | 1/2W | |
| R129 | 1-215-479-00 | METAL | 270K | 1% | 1/6W | |
| R130 | 1-247-830-11 | CARBON | 910 | 5% | 1/4W | |
| R132 | 1-247-830-11 | CARBON | 910 | 5% | 1/4W | |
| R169 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R170 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R171 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R172 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R173 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R174 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R175 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R176 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R177 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R185 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R186 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R187 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R188 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R189 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R190 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R191 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R192 | 1-215-453-00 | METAL | 22K | 1% | 1/6W | |
| R193 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R194 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |

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*A-1340-989-A DC BOARD, COMPLETE
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CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C2 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C3 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 25V |
| C4 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 25V |

CONNECTOR

| | | |
|---|---|---|
| DC1 | *1-566-062-11 | PIN, CONNECTOR 10P |
| DC2 | *1-566-062-11 | PIN, CONNECTOR 10P |

IC

| | | |
|---|---|---|
| IC1 | 8-759-040-53 | IC MC14053BCP |
| IC2 | 8-759-040-53 | IC MC14053BCP |

TRANSISTOR

| | | |
|---|---|---|
| Q1 | 8-729-203-49 | TRANSISTOR 2SC3327-B |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R2 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R3 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R4 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R5 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R6 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R7 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R8 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R9 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R10 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R11 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R12 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R13 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R14 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R15 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R16 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R17 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R18 | 1-215-467-00 | METAL | 82K | 1% | 1/6W |
| R19 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R20 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R21 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R22 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R23 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R24 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R25 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R26 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R27 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R28 | 1-215-467-00 | METAL | 82K | 1% | 1/6W |
| R29 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R30 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R31 | 1-215-461-00 | METAL | 47K | 1% | 1/6W |
| R32 | 1-215-449-00 | METAL | 15K | 1% | 1/6W |
| R33 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R34 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R35 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R36 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R37 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W |
| R38 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R39 | 1-215-453-00 | METAL | 22K | 1% | 1/6W |
| R40 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R41 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R42 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |

VARIABLE RESISTOR

| | | |
|---|---|---|
| RV1 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV2 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV3 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV4 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV5 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV6 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV7 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV8 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV9 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV10 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV11 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV12 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV13 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV14 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV15 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV16 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV17 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV18 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV19 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV20 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV21 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV22 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV23 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV24 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV25 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV26 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV27 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV28 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV29 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV30 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV31 | 1-237-521-21 | RES, ADJ, CERMET 100K |
| RV32 | 1-237-518-21 | RES, ADJ, CERMET 10K |
| RV33 | 1-237-518-21 | RES, ADJ, CERMET 10K |

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*A-1345-730-A EA BOARD, COMPLETE
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| | | |
|---|---|---|
| 4-347-706-00 | HEAT SINK (TR) | |
| 4-373-965-01 | INSULATOR (SMALL) | |
| 7-682-548-04 | SCREW +P 3X8 | |
| 7-685-646-79 | SCREW BVTP | 3X8 TYPE2 IT-3 |

CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-101-810-00 | CERAMIC | 100PF | 5% | 500V |
| C2 | 1-124-917-11 | ELECT | 33MF | 20% | 25V |
| C3 | 1-124-357-11 | ELECT | 33MF | 20% | 35V |
| C4 | 1-124-046-00 | ELECT | 10MF | | 160V |
| C5 | 1-124-046-00 | ELECT | 10MF | | 160V |
| C6 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C7 | 1-124-046-00 | ELECT | 10MF | | 160V |
| C8 | 1-136-337-11 | FILM | 3.3MF | 10% | 100V |
| C12 | 1-102-121-00 | CERAMIC | 0.0022MF | 10% | 50V |
| C13 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C14 | 1-130-728-00 | FILM | 0.0022MF | 5% | 50V |
| C15 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C16 | 1-123-356-00 | ELECT | 10MF | 20% | 25V |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C17 | 1-123-330-00 | ELECT | 22MF | 20% | 16V |
| C18 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C19 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C20 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C21 | 1-101-810-00 | CERAMIC | 100PF | 5% | 500V |
| C22 | 1-108-700-11 | MYLAR | 0.047MF | 10% | 200V |
| C23 | 1-123-024-21 | ELECT | 33MF | | 160V |
| C24 | 1-124-046-00 | ELECT | 10MF | | 160V |
| C25 | 1-136-112-00 | FILM | 1.4MF | 5% | 200V |
| C26 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C27 | 1-108-700-11 | MYLAR | 0.047MF | 10% | 200V |
| C28 | 1-124-666-11 | ELECT | 4.7MF | 20% | 200V |
| C29 | 1-101-810-00 | CERAMIC | 100PF | 5% | 500V |
| C30 | 1-162-135-11 | CERAMIC | 560PF | 10% | 2KV |
| C31 | 1-136-069-00 | FILM | 0.0044MF | 3% | 2KV |
| C32 | 1-136-069-00 | FILM | 0.0044MF | 3% | 2KV |
| C33 | 1-124-512-11 | ELECT | 33MF | 20% | 50V |
| C34 | 1-124-512-11 | ELECT | 33MF | 20% | 50V |
| C35 | 1-126-163-11 | ELECT | 4.7MF | 20% | 50V |
| C36 | 1-126-163-11 | ELECT | 4.7MF | 20% | 50V |
| C37 | 1-161-051-00 | CERAMIC | 0.01MF | 10% | 50V |
| C39 | 1-162-318-11 | CERAMIC | 0.001MF | 10% | 500V |
| C40 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C41 | 1-102-244-00 | CERAMIC | 220PF | 10% | 500V |
| C42 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-110-31 | DIODE RD12ES-B2 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D3 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-911-19 | DIODE 1SS119 |
| D7 | 8-719-110-03 | DIODE RD7.5ES-B2 |
| D8 | 8-719-300-76 | DIODE RH-1 |
| D9 | 8-719-928-08 | DIODE ERD28-08S |
| D10 | 8-719-300-76 | DIODE RH-1A |
| D11 | 8-719-300-76 | DIODE RH-1A |
| D12 | 8-719-300-76 | DIODE RH-1A |
| D13 | 8-719-109-75 | DIODE RD4.3ES-B2 |
| D14 | 8-719-109-75 | DIODE RD4.3ES-B2 |
| D15 | 8-719-911-19 | DIODE 1SS119 |
| D16 | 8-719-911-19 | DIODE 1SS119 |

CONNECTOR

| | | |
|---|---|---|
| EA1 | *1-568-536-11 | PLUG (MINIATURE DY) 6P |

IC

| | | |
|---|---|---|
| IC1 | 8-759-100-75 | IC UPC1394C |
| IC2 | 8-759-945-58 | IC RC4558P |

COIL

| | | |
|---|---|---|
| L1 | 1-459-433-00 | COIL (WITH CORE) |
| L2 | 1-459-433-00 | COIL (WITH CORE) |
| L3 | 1-459-433-00 | COIL (WITH CORE) |
| L4 | 1-459-111-00 | COIL, DRAM CORE (CDI) |
| L5 | 1-459-111-00 | COIL, DRAM CORE (CDI) |

TRANSISTOR

| | | |
|---|---|---|
| Q1 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |
| Q2 | 8-729-697-92 | TRANSISTOR 2SA979-G |
| Q3 | 8-729-140-96 | TRANSISTOR 2SD774-34 |
| Q4 | 8-729-303-61 | TRANSISTOR 2SC3851 |
| Q5 | 8-729-304-07 | TRANSISTOR 2SA1488-Y |
| Q10 | 8-729-119-80 | TRANSISTOR 2SC2688-LK |
| Q11 | 8-729-175-22 | TRANSISTOR 2SC2752 |
| Q12 | 8-729-200-17 | TRANSISTOR 2SA1091-O |
| Q13 | 8-729-119-80 | TRANSISTOR 2SC2688-LK |

# EA | EB

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| Q14 | 8-729-202-53 | TRANSISTOR 2SD1556-LB | | | | |
| Q15 | 8-729-313-42 | TRANSISTOR 2SD1134-C | | | | |
| Q16 | 8-729-385-82 | TRANSISTOR 2SB858-C | | | | |
| | | RESISTOR | | | | |
| R1 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | |
| R2 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R3 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R4 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R5 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R6 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R7 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R8 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W | |
| R9 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R10 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | |
| R11 | 1-249-448-11 | CARBON | 1.2 | 5% | 1/4W | F |
| R12 | 1-249-448-11 | CARBON | 1.2 | 5% | 1/4W | F |
| R13 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R14 | 1-215-887-00 | METAL OXIDE | 150 | 5% | 2W | F |
| R15 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R22 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R23 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R24 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R25 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W | |
| R26 | 1-215-431-00 | METAL | 2.7K | 1% | 1/6W | |
| R27 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R28 | 1-215-461-00 | METAL | 47K | 1% | 1/6W | |
| R29 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R30 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R31 | 1-247-868-11 | CARBON | 36K | 5% | 1/4W | |
| R32 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R33 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R34 | 1-215-433-00 | METAL | 3.3K | 1% | 1/6W | |
| R35 | 1-215-435-00 | METAL | 3.9K | 1% | 1/6W | |
| R36 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R37 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R38 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R39 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R40 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R41 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R42 | 1-215-876-00 | METAL OXIDE | 15K | 5% | 1W | F |
| R43 | 1-215-859-00 | METAL OXIDE | 22 | 5% | 1W | F |
| R44 | 1-216-349-00 | METAL OXIDE | 1 | 5% | 1W | F |
| R45 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R46 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R47 | 1-216-463-00 | METAL OXIDE | 12K | 5% | 2W | F |
| R48 | 1-216-346-00 | METAL OXIDE | 0.56 | 5% | 1W | F |
| R49 | 1-249-382-11 | CARBON | 1.2 | 5% | 1/4W | F |
| R50 | 1-247-826-00 | CARBON | 620 | 5% | 1/4W | |
| R51 | 1-247-826-00 | CARBON | 620 | 5% | 1/4W | |
| R52 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R53 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R54 | 1-215-447-00 | METAL | 12K | 1% | 1/6W | |
| R55 | 1-249-391-11 | CARBON | 6.8 | 5% | 1/4W | F |
| R56 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R57 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R58 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R59 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R60 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R61 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W | F |
| R62 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W | F |
| R63 | 1-216-361-00 | METAL OXIDE | 0.22 | 5% | 2W | F |
| | | TRANSFORMER | | | | |
| T1 | 1-460-067-11 | HLT | | | | |
| T2 | 1-407-850-00 | DLT | | | | |
| T3 | 1-437-078-00 | TRANSFORMER, HORIZONTAL DRIVE | | | | |
| T4 | 1-437-079-00 | TRANSFORMER, HORIZONTAL DRIVE | | | | |
| T5 | 1-439-383-11 | HOT | | | | |

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| | | | | | |
|---|---|---|---|---|---|
| | *A-1345-731-A | EB BOARD, COMPLETE | | | |
| | | ********** | | | |
| | 4-373-965-01 | INSULATOR (SMALL) | | | |
| | 4-373-966-01 | INSULATOR (LARGE) | | | |
| | 7-682-548-04 | SCREW P 3X8 | | | |
| | | CAPACITOR | | | |
| C1 | 1-124-666-11 | ELECT | 4.7MF | 20% | 200V |
| C2 | 1-124-917-11 | ELECT | 33MF | 20% | 25V |
| C3 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C4 | 1-124-357-11 | ELECT | 33MF | 20% | 35V |
| C5 | 1-102-978-00 | CERAMIC | 220PF | 5% | 50V |
| C6 | 1-130-789-00 | FILM | 1MF | 5% | 100V |
| C7 | 1-108-696-11 | MYLAR | 0.022MF | 10% | 200V |
| C8 | 1-124-666-11 | ELECT | 4.7MF | 20% | 200V |
| C9 | 1-130-479-00 | MYLAR | 0.0047MF | 5% | 50V |
| C10 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C11 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C12 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C13 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C14 | 1-123-356-00 | ELECT | 10MF | 20% | 50V |
| C15 | 1-136-155-00 | FILM | 0.15MF | 5% | 50V |
| C16 | 1-124-046-00 | ELECT | 10MF | | 160V |
| C17 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C18 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C19 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C20 | 1-162-129-00 | CERAMIC | 150PF | 10% | 2KV |
| C21 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C22 | 1-102-959-00 | CERAMIC | 22PF | 5% | 50V |
| C23 | 1-101-880-00 | CERAMIC | 47PF | 5% | 50V |
| | | DIODE | | | |
| D1 | 8-719-911-19 | DIODE 1SS119 | | | |
| D2 | 8-719-911-19 | DIODE 1SS119 | | | |
| D3 | 8-719-911-19 | DIODE 1SS119 | | | |
| D4 | 8-719-911-55 | DIODE U05G | | | |
| D5 | 8-719-911-55 | DIODE U05G | | | |
| D6 | 8-719-911-19 | DIODE 1SS119 | | | |
| D7 | 8-719-911-19 | DIODE 1SS119 | | | |
| D8 | 8-719-911-19 | DIODE 1SS119 | | | |
| D9 | 8-719-911-19 | DIODE 1SS119 | | | |
| D10 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | COIL | | | |
| L1 | 1-459-123-00 | COIL,DUST CORE(PAC) | | | |
| | | TRANSISTOR | | | |
| Q1 | 8-729-697-92 | TRANSISTOR 2SA979-G | | | |
| Q2 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | |
| Q3 | 8-729-309-08 | TRANSISTOR 2SC1890A-E | | | |
| Q4 | 8-729-309-36 | TRANSISTOR 2SA893A-EV | | | |
| Q5 | 8-729-300-70 | TRANSISTOR 2SD1137 | | | |
| Q6 | 8-729-300-80 | TRANSISTOR 2SB860 | | | |
| Q7 | 8-729-386-12 | TRANSISTOR 2SB861-C | | | |
| Q8 | 8-729-255-12 | TRANSISTOR 2SC2551-0 | | | |
| Q9 | 8-729-697-92 | TRANSISTOR 2SA979-G | | | |
| Q10 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | |
| Q11 | 8-729-140-97 | TRANSISTOR 2SB734-34 | | | |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**EB** **GA**

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| Q12 | 8-729-306-92 | TRANSISTOR 2SD669A-C | | | | |
| Q13 | 8-729-306-92 | TRANSISTOR 2SD669A-C | | | | |
| Q14 | 8-729-255-12 | TRANSISTOR 2SC2551-0 | | | | |
| Q15 | 8-729-255-12 | TRANSISTOR 2SC2551-0 | | | | |
| Q16 | 8-729-255-12 | TRANSISTOR 2SC2551-0 | | | | |
| Q17 | 8-729-200-17 | TRANSISTOR 2SA1091-O | | | | |
| Q18 | 8-729-119-80 | TRANSISTOR 2SC2688-LK | | | | |
| Q19 | 8-729-119-80 | TRANSISTOR 2SC2688-LK | | | | |
| | | RESISTOR | | | | |
| R1 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R2 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R3 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R4 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R5 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | |
| R6 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R7 | 1-216-465-11 | METAL OXIDE | 27K | 5% | 2W | F |
| R8 | 1-247-802-11 | CARBON | 62 | 5% | 1/4W | |
| R9 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R10 | 1-249-448-11 | CARBON | 1.2 | 5% | 1/4W | F |
| R11 | 1-249-448-11 | CARBON | 1.2 | 5% | 1/4W | F |
| R12 | 1-216-351-00 | METAL OXIDE | 1.5 | 5% | 1W | F |
| R13 | 1-216-431-11 | METAL OXIDE | 560 | 5% | 1W | F |
| R14 | 1-215-866-11 | METAL OXIDE | 330 | 5% | 1W | F |
| R15 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R16 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | F |
| R17 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | F |
| R18 | 1-215-873-00 | METAL OXIDE | 4.7K | 5% | 1W | F |
| R19 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R20 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R21 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R22 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R23 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R24 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R25 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R26 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R27 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R28 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R29 | 1-249-452-11 | CARBON | 2.7 | 5% | 1/4W | F |
| R30 | 1-249-452-11 | CARBON | 2.7 | 5% | 1/4W | F |
| R31 | 1-249-407-11 | CARBON | 150 | 5% | 1/4W | F |
| R32 | 1-216-351-00 | METAL OXIDE | 1.5 | 5% | 1W | F |
| R33 | 1-215-421-00 | METAL | 1K | 1% | 1/6W | |
| R34 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R35 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R36 | 1-216-465-11 | METAL OXIDE | 27K | 5% | 2W | F |
| R37 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W | |
| R38 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R39 | 1-215-445-00 | METAL | 10K | 1% | 1/6W | |
| R40 | 1-215-453-00 | METAL | 22K | 1% | 1/6W | |
| R41 | 1-215-421-00 | METAL | 1K | 1% | 1/6W | |
| R42 | 1-247-688-11 | CARBON | 10 | 5% | 1/4W | F |
| R43 | 1-247-688-11 | CARBON | 10 | 5% | 1/4W | F |
| R44 | 1-215-865-11 | METAL OXIDE | 220 | 5% | 1W | F |
| R45 | 1-247-688-11 | CARBON | 10 | 5% | 1/4W | F |
| | | TRANSFORMER | | | | |
| T1 | 1-421-504-00 | TRANSFORMER, FERRITE (VPT) | | | | |
| T2 | 1-407-849-00 | TRANSFORMER, D.F | | | | |

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

# GA

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C31 | 1-102-030-00 | CERAMIC | 330PF | 10% | 500V |
| C32 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C33 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C34 | 1-101-361-00 | CERAMIC | 150PF | 5% | 50V |
| C35 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C36 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C37 | 1-130-734-00 | FILM | 0.0068MF | 5% | 50V |
| C38 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C39 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C40 | 1-123-381-00 | ELECT | 2.2MF | 20% | 50V |
| C41 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C42 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C43 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C44 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C45 | 1-162-132-00 | CERAMIC | 270PF | 10% | 2KV |
| C46 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C47 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C48 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C49 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C50 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C51 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C52 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C53 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C54 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C55 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C56 | 1-136-201-11 | FILM | 0.22MF | 5% | 400V |
| C57 | 1-123-356-00 | ELECT | 10MF | 20% | 25V |
| C58 | 1-123-379-00 | ELECT | 0.47MF | 20% | 50V |
| C59 | 1-130-734-00 | FILM | 0.0068MF | 5% | 50V |
| C60 | 1-102-228-00 | CERAMIC | 470PF | 10% | 500V |
| C61 | 1-102-228-00 | CERAMIC | 470PF | 10% | 500V |
| C62 | 1-102-228-00 | CERAMIC | 470PF | 10% | 500V |
| C63 | 1-102-228-00 | CERAMIC | 470PF | 10% | 500V |
| C64 | 1-124-024-00 | ELECT | 4.7MF | 20% | 350V |
| C65 | 1-124-024-00 | ELECT | 4.7MF | 20% | 350V |
| C66 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C67 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C68 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C69 | 1-124-562-11 | ELECT | 47MF | 20% | 200V |
| C70 | 1-124-171-00 | ELECT | 100MF | 20% | 160V |
| C71 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C72 | 1-124-562-11 | ELECT | 47MF | 20% | 200V |
| C73 | 1-124-171-00 | ELECT | 100MF | 20% | 160V |
| C74 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C75 | 1-124-122-11 | ELECT | 100MF | 20% | 16V |
| C76 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C77 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C78 | 1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C79 | 1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C80 | 1-125-658-11 | ELECT | 560MF | 20% | 250V |
| C81 | 1-125-658-11 | ELECT | 560MF | 20% | 250V |
| C82 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C83 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C84 | ⚠1-136-311-11 | FILM | 0.47MF | 20% | 300V |
| C85 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C86 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C87 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C88 | ⚠1-162-599-12 | CERAMIC | 0.0047MF | 20% | 400V |
| C89 | ⚠1-136-311-11 | FILM | 0.47MF | 20% | 300V |
| C90 | 1-136-171-00 | FILM | 0.033MF | 5% | 50V |
| C91 | 1-162-599-12 | CERAMIC (BVM-2010P/PD ONLY) | 0.0047MF | 20% | 400V |
| C92 | 1-136-171-00 | FILM | 0.033MF | 5% | 50V |
| C93 | 1-162-599-12 | CERAMIC (BVM-2010P/PD ONLY) | 0.0047MF | 20% | 400V |
| C94 | 1-102-038-00 | CERAMIC | 0.001MF | | 500V |
| C95 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C96 | 1-102-050-00 | CERAMIC | 0.01MF | 99% | 500V |
| C97 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C98 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C99 | 1-102-050-00 | CERAMIC | 0.01MF | 99% | 500V |
| C100 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C101 | 1-162-117-00 | CERAMIC | 100PF | 10% | 500V |
| C102 | 1-136-601-11 | FILM | 0.01MF | 5% | 630V |
| C103 | 1-136-601-11 | FILM | 0.01MF | 5% | 630V |

## DIODE

| | | |
|---|---|---|
| D1 | 8-719-912-51 | DIODE ESAC25-04C |
| D2 | 8-719-918-73 | DIODE ESAC25-04N |
| D3 | 8-719-901-73 | DIODE ESAD25-04D |
| D4 | 8-719-901-73 | DIODE ESAD25-04D |
| D5 | 8-719-907-24 | DIODE ESAC31-02D |
| D6 | 8-719-907-24 | DIODE ESAC31-02D |
| D7 | 8-719-300-33 | DIODE RU-3AM |
| D8 | 8-719-300-52 | DIODE CTU-38R |
| D9 | 8-719-300-53 | DIODE CTU-38S |
| D10 | 8-719-912-51 | DIODE ESAC25-04C |
| D11 | 8-719-918-73 | DIODE ESAC25-04N |
| D12 | 8-719-911-19 | DIODE 1SS119 |
| D13 | 8-719-911-19 | DIODE 1SS119 |
| D14 | 8-719-100-58 | DIODE RD10EB3 |
| D15 | 8-719-911-19 | DIODE 1SS119 |
| D16 | 8-719-911-19 | DIODE 1SS119 |
| D17 | 8-719-911-19 | DIODE 1SS119 |
| D18 | 8-719-109-89 | DIODE RD5.6ES-B2 |
| D20 | 8-719-200-02 | DIODE 10E-2 |
| D21 | .8-719-300-07 | DIODE RB406N |
| D22 | 8-759-157-40 | IC UPC574J |
| D23 | 8-719-911-19 | DIODE 1SS119 |
| D24 | 8-719-100-58 | DIODE RD10EB3 |
| D25 | 8-719-911-19 | DIODE 1SS119 |
| D26 | 8-719-003-08 | THYRISTOR CR3CM-8 |
| D27 | 8-719-981-00 | DIODE ERB81-004 |
| D28 | 8-719-981-00 | DIODE ERB81-004 |
| D29 | 8-719-981-00 | DIODE ERB81-004 |
| D30 | 8-719-981-00 | DIODE ERB81-004 |
| D31 | 8-719-300-33 | DIODE RU-3AM |
| D32 | 8-719-300-33 | DIODE RU-3AM |

## CONNECTOR

| | | |
|---|---|---|
| GA1 | 1-506-348-XX | PIN, CONNECTOR 3P |
| GA2 | *1-506-371-00 | PIN, CONNECTOR 2P |
| GA3 | 1-508-768-00 | PIN, CONNECTOR (5MM PITCH) 6P |
| GA4 | *1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P |
| GA5 | *1-566-055-11 | PIN, CONNECTOR 3P |
| GA6 | *1-566-055-11 | PIN, CONNECTOR 3P |
| GA7 | *1-566-058-11 | PIN, CONNECTOR 6P |
| GA8 | *1-566-057-11 | PIN, CONNECTOR 5P |

## IC

| | | |
|---|---|---|
| IC1 | 1-806-805-11 | IC MC5433 |
| IC2 | 8-759-904-94 | IC TL494CN |
| IC3 | 8-759-904-94 | IC TL494CN |

## COIL

| | | |
|---|---|---|
| L3 | 1-459-643-11 | COIL, CHOKE 525UH |
| L4 | 1-459-643-11 | COIL, CHOKE 525UH |
| L5 | 1-459-643-11 | COIL, CHOKE 525UH |
| L6 | 1-459-643-11 | COIL, CHOKE 525UH |
| L7 | 1-459-207-00 | COIL, CORE |
| L8 | 1-459-644-11 | COIL, CHOKE 2.9MMH |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

• The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

**GA**

| Ref.No | Part No. | Description | | | | | Remark |
|---|---|---|---|---|---|---|---|
| L9 | 1-459-645-11 | COIL, CHOKE 20MMH | | | | | |
| L10 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L11 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L12 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L13 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L14 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L15 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L16 | 1-421-329-00 | COIL, CHOKE | | | | | |
| L17 | ⚠1-421-590-11 | TRANSFORMER, LINE FILTER | | | | | |
| L18 | ⚠1-421-590-11 | TRANSFORMER, LINE FILTER | | | | | |
| | | **TRANSISTOR** | | | | | |
| Q1 | 8-729-301-76 | TRANSISTOR STR8124-R | | | | | |
| Q2 | 8-729-301-76 | TRANSISTOR STR8124-R | | | | | |
| Q3 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | | | |
| Q4 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | | | |
| Q5 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | | | |
| Q6 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | | | |
| Q7 | 8-729-140-97 | TRANSISTOR 2SB734-5 | | | | | |
| Q8 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | | |
| Q9 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | | |
| Q10 | 8-729-313-42 | TRANSISTOR 2SD1134-C | | | | | |
| Q11 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | | |
| Q12 | 8-729-140-96 | TRANSISTOR 2SD774-34 | | | | | |
| Q13 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | | |
| Q14 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | | |
| | | **RESISTOR** | | | | | |
| R1 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W | F | |
| R2 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W | F | |
| R3 | 1-247-715-11 | CARBON | 1.5K | 5% | 1/4W | | |
| R4 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W | F | |
| R5 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W | F | |
| R6 | 1-249-447-11 | CARBON | 1 | 5% | 1/4W | F | |
| R7 | 1-247-692-11 | CARBON | 22 | 5% | 1/4W | | |
| R8 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | | |
| R9 | 1-249-382-11 | CARBON | 1.2 | 5% | 1/4W | F | |
| R10 | 1-249-447-11 | CARBON | 1 | 5% | 1/4W | F | |
| R11 | 1-247-692-11 | CARBON | 22 | 5% | 1/4W | | |
| R12 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | | |
| R13 | 1-215-866-11 | METAL OXIDE | 330 | 5% | 1W | F | |
| R14 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | | |
| R15 | 1-247-709-11 | CARBON | 510 | 5% | 1/4W | | |
| R16 | 1-247-709-11 | CARBON | 510 | 5% | 1/4W | | |
| R17 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | | |
| R18 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | | |
| R19 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | | |
| R20 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W | | |
| R21 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | |
| R22 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | | |
| R23 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | |
| R24 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | | |
| R25 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | | |
| R26 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | | |
| R27 | 1-247-713-11 | CARBON | 1K | 5% | 1/4W | | |
| R28 | 1-247-713-11 | CARBON | 1K | 5% | 1/4W | | |
| R29 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W | | |
| R30 | 1-215-886-11 | METAL OXIDE | 100 | 5% | 2W | F | |
| R31 | 1-215-886-11 | METAL OXIDE | 100 | 5% | 2W | F | |
| R32 | 1-215-886-11 | METAL OXIDE | 100 | 5% | 2W | F | |
| R33 | 1-247-697-11 | CARBON | 56 | 5% | 1/4W | F | |
| R34 | 1-247-697-11 | CARBON | 56 | 5% | 1/4W | F | |
| R35 | 1-215-863-11 | METAL OXIDE | 100 | 5% | 1W | F | |
| R36 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | | |
| R37 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | | |
| R38 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | |

| Ref.No | Part No. | Description | | | | | Remark |
|---|---|---|---|---|---|---|---|
| R39 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | | |
| R40 | 1-215-453-00 | METAL | 22K | 1% | 1/4W | | |
| R41 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | | |
| R42 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W | | |
| R43 | 1-215-435-00 | METAL | 3.9K | 1% | 1/4W | | |
| R44 | 1-215-427-00 | METAL | 1.8K | 1% | 1/4W | | |
| R45 | 1-247-713-11 | CARBON | 1K | 5% | 1/4W | | |
| R46 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | | |
| R47 | 1-216-995-11 | METAL | 820 | 1% | 10W | | |
| R48 | 1-215-866-11 | METAL OXIDE | 330 | 5% | 1W | F | |
| ⊠ R52 | ⚠ | METAL OXIDE | | | 2W | F | |
| ⊠ R53 | ⚠ | METAL | | | 1/4W | | |
| R54 | 1-215-901-00 | METAL OXIDE | 33K | 5% | 2W | F | |
| R55 | 1-215-426-00 | METAL | 1.6K | 1% | 1/4W | | |
| R60 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | | |
| R61 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | | |
| R62 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | |
| R64 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W | | |
| R65 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W | | |
| R66 | 1-215-453-00 | METAL | 22K | 1% | 1/4W | | |
| ⊠ R67 | ⚠ | METAL | | | 1/2W | | |
| ⊠ R68 | ⚠ | METAL | | | 1/4W | | |
| R74 | 1-215-889-00 | METAL OXIDE | 330 | 5% | 2W | F | |
| R77 | 1-215-433-00 | METAL | 3.3K | 1% | 1/4W | | |
| R78 | 1-215-433-00 | METAL | 3.3K | 1% | 1/4W | | |
| R80 | ⚠1-202-643-35 | SOLID | 820K | 10% | 1/2W | | |
| R81 | 1-215-461-00 | METAL | 47K | 1% | 1/4W | | |
| R82 | 1-215-461-00 | METAL | 47K | 1% | 1/4W | | |
| R83 | 1-215-461-00 | METAL | 47K | 1% | 1/4W | | |
| R84 | 1-215-459-00 | METAL | 39K | 1% | 1/4W | | |
| R85 | 1-215-449-00 | METAL | 15K | 1% | 1/4W | | |
| R86 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W | | |
| R87 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | | |
| R88 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | | |
| R89 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | |
| R90 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | |
| R91 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | | |
| R92 | ⚠1-217-295-11 | WIREWOUND | 5.6 | 10% | 5W | F | |
| R93 | 1-215-886-11 | METAL OXIDE | 100 | 5% | 2W | F | |
| R94 | 1-205-538-00 | WIREWOUND | 4.7 | 10% | 10W | | |
| R95 | 1-215-904-11 | METAL OXIDE | 100K | 5% | 2W | F | |
| R96 | 1-215-904-11 | METAL OXIDE | 100K | 5% | 2W | F | |
| R97 | 1-215-904-11 | METAL OXIDE | 100K | 5% | 2W | F | |
| R98 | 1-215-904-11 | METAL OXIDE | 100K | 5% | 2W | F | |
| | | **VARIABLE RESISTOR** | | | | | |
| RV1 | 1-237-514-21 | RES, ADJ, CERMET 500 | | | | | |
| RV2 | 1-237-515-21 | RES, ADJ, CERMET 1K | | | | | |
| | | **RELAY** | | | | | |
| RY1 | ⚠1-515-805-11 | RELAY, POWER | | | | | |
| | | **TRANSFORMER** | | | | | |
| T1 | ⚠1-448-433-11 | TRANSFORMER, CONVERTER (S.R.T) | | | | | |
| T2 | ⚠1-447-106-11 | TRANSFORMER, DRIVE | | | | | |
| T3 | ⚠1-421-624-12 | TRANSFORMER, CURRENT | | | | | |
| T4 | ⚠1-447-426-11 | TRANSFORMER, CONVERTER | | | | | |
| T5 | ⚠1-448-432-11 | TRANSFORMER, CONVERTER (S.R.T) | | | | | |
| T6 | ⚠1-447-106-11 | TRANSFORMER, DRIVE | | | | | |
| T7 | ⚠1-421-624-12 | TRANSFORMER, CURRENT | | | | | |
| | | **THERMISTOR** | | | | | |
| TH1 | ⚠1-800-820-12 | THERMISTOR, POWER | | | | | |
| THP1 | ⚠1-806-387-12 | THERMISTOR (POSITIVE) | | | | | |
| THP2 | ⚠1-800-686-33 | THERMISTOR (POSITIVE) | | | | | |

# GB | GC | HA

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | *1-617-884-11 | GB BOARD | | | | |
| | | ******* | | | | |
| | | **CAPACITOR** | | | | |
| C1 | 1-123-380-00 | ELECT | 1MF | 20% | 50V | |
| C2 | 1-123-380-00 | ELECT | 1MF | 20% | 50V | |
| | | **DIODE** | | | | |
| D1 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D2 | 8-719-110-08 | DIODE RD8.2ES-B2 | | | | |
| D3 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D4 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D5 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D6 | 8-719-110-08 | DIODE RD8.2ES-B2 | | | | |
| D7 | 8-719-812-41 | DIODE TLR124 | | | | |
| D8 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D9 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D10 | 8-719-812-41 | DIODE TLR124 | | | | |
| D11 | 8-719-110-08 | DIODE RD8.2ES-B2 | | | | |
| D12 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D13 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D14 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D15 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D16 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D17 | 8-719-110-08 | DIODE RD8.2ES-B2 | | | | |
| D18 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D19 | 8-719-911-19 | DIODE 1SS119 | | | | |
| | | **CONNECTOR** | | | | |
| GA1 | *1-506-603-11 | PLUG, L TYPE (2.0MM PITCH) 10P | | | | |
| | | **TRANSISTOR** | | | | |
| Q1 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q2 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q3 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q4 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q5 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q6 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q7 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q8 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q9 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q10 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| | | **RESISTOR** | | | | |
| R1 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R2 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R3 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R4 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R5 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | |
| R6 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R7 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | |
| R8 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R9 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R10 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R11 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R12 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R13 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R14 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R15 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R16 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R17 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R18 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R19 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R20 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R21 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R22 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R23 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R24 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R25 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |

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|---|---|---|---|---|---|---|
| | *1-617-885-11 | GC BOARD | | | | |
| | | ******* | | | | |
| | | **CAPACITOR** | | | | |
| C1 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C2 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C3 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C4 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C5 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C6 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C7 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C8 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C9 | 1-123-330-00 | ELECT | 22MF | 20% | 25V | |
| C12 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| C14 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| C16 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| C17 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| C18 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| | | **CONNECTOR** | | | | |
| GC1 | *1-566-044-11 | PIN, CONNECTOR 5P | | | | |
| GC2 | *1-566-057-11 | PIN, CONNECTOR 5P | | | | |
| GC3 | *1-566-044-11 | PIN, CONNECTOR 5P | | | | |
| | | **IC** | | | | |
| IC1 | 8-759-929-65 | IC LM7912CT | | | | |
| IC2 | 8-759-929-65 | IC LM7912CT | | | | |
| IC3 | 8-759-929-62 | IC LM7812CT | | | | |
| IC4 | 8-759-929-62 | IC LM7812CT | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | *1-617-890-11 | HA BOARD | | | | |
| | | ******* | | | | |
| | | **CONNECTOR** | | | | |
| HA1 | *1-566-055-11 | PIN, CONNECTOR 3P | | | | |
| HA2 | *1-566-056-11 | PIN, CONNECTOR 4P | | | | |
| HA3 | *1-566-064-11 | PIN, CONNECTOR 12P | | | | |
| HA4 | *1-566-054-11 | PIN, CONNECTOR 2P | | | | |
| | | **RESISTOR** | | | | |
| R1 | 1-247-814-11 | CARBON | 200 | 5% | 1/4W | |
| R2 | 1-215-469-00 | METAL | 100K | 1% | 1/4W | |
| | | **VARIABLE RESISTOR** | | | | |
| RV1 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | | |
| | | **SWITCH** | | | | |
| S1 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S2 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S3 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S4 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S5 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S6 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S7 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S8 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |
| S9 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | | |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| S10 | 1-570-565-11 | SWITCH, PUSH (10 KEY) | | | |

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|---|---|---|---|---|---|
| | *1-617-886-11 | HB BOARD | | | |
| | | ******* | | | |
| | 1-570-568-11 | SWITCH, PUSH (4 KEY) | | | |
| | 1-570-569-11 | SWITCH, PUSH (3 KEY) | | | |
| | | CAPACITOR | | | |
| C1 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C2 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C3 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C4 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C5 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C6 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C7 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| | | DIODE | | | |
| D1 | 8-719-938-68 | DIODE GL3HY8 | | | |
| D2 | 8-719-938-68 | DIODE GL3HY8 | | | |
| D3 | 8-719-938-68 | DIODE GL3HY8 | | | |
| D4 | 8-719-938-68 | DIODE GL3HY8 | | | |
| D5 | 8-719-812-43 | DIODE TLG124A | | | |
| D6 | 8-719-812-43 | DIODE TLG124A | | | |
| D7 | 8-719-812-43 | DIODE TLG124A | | | |
| | | CONNECTOR | | | |
| HB1 | *1-566-064-11 | PIN, CONNECTOR 12P | | | |
| HB2 | *1-566-062-11 | PIN, CONNECTOR 10P | | | |
| HB3 | *1-566-060-11 | PIN, CONNECTOR 8P | | | |
| HB4 | *1-566-064-11 | PIN, CONNECTOR 12P | | | |
| HB5 | *1-566-058-11 | PIN, CONNECTOR 6P | | | |
| HB6 | *1-566-064-11 | PIN, CONNECTOR 12P | | | |
| | | RESISTOR | | | |
| R1 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R2 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R3 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R5 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R6 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R7 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R8 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R9 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R10 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R11 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R12 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R13 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R15 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R16 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| R17 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W |
| | | VARIABLE RESISTOR | | | |
| RV1 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV2 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV3 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV4 | 1-237-519-21 | RES, ADJ, CERMET 20K | | | |
| RV5 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV6 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV7 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV8 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV9 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV10 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV11 | 1-237-520-21 | RES, ADJ, CERMET 50K | | | |
| RV12 | 1-237-521-21 | RES, ADJ, CERMET 100K | | | |
| | | SWITCH | | | |
| S8 | 1-570-509-11 | SWITCH, TOGGLE | | | |
| S9 | 1-570-509-11 | SWITCH, TOGGLE | | | |
| S10 | 1-570-509-11 | SWITCH, TOGGLE | | | |
| S11 | 1-570-510-11 | SWITCH, TOGGLE | | | |
| S12 | 1-570-509-11 | SWITCH, TOGGLE | | | |
| S13 | 1-570-509-11 | SWITCH, TOGGLE | | | |
| S14 | 1-570-512-11 | SWITCH, TOGGLE | | | |
| S15 | 1-570-509-11 | SWITCH, TOGGLE | | | |

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|---|---|---|---|---|---|
| | *1-617-887-11 | HC BOARD | | | |
| | | ******* | | | |
| | | SWITCH | | | |
| SW1 | 1-570-567-21 | SWITCH, PUSH (2 KEY) | | | |
| SW2 | 1-570-567-21 | SWITCH, PUSH (2 KEY) | | | |
| SW3 | 1-570-567-11 | SWITCH, PUSH (2 KEY) | | | |
| SW4 | 1-570-567-11 | SWITCH, PUSH (2 KEY) | | | |

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|---|---|---|---|---|---|
| | *1-617-888-11 | HD BOARD | | | |
| | | ******* | | | |
| | | BVM-2010P ONLY, Serial No. upto 2,001,080 | | | |
| | | BVM-2010PD ONLY, Serial No. upto 2,000,042 | | | |
| | | BVM-2010PM ONLY, Serial No. upto 2,000,003 | | | |
| | *4-026-910-00 | HOLDER, LED | | | |
| | | DIODE | | | |
| D1 | 8-719-812-42 | DIODE TLY124A | | | |
| D2 | 8-719-812-41 | DIODE TLR124A | | | |
| | | RESISTOR | | | |
| R1 | 1-215-465-00 | METAL | 68K | 1% | 1/6W |
| R2 | 1-215-451-00 | METAL | 18K | 1% | 1/6W |
| R3 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R5 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| | | VARIABLE RESISTOR | | | |
| RV1 | 1-230-788-71 | RES, VAR, CERMET 20K | | | |
| RV2 | 1-230-788-71 | RES, VAR, CERMET 20K | | | |
| RV3 | 1-230-788-71 | RES, VAR, CERMET 20K | | | |
| RV4 | 1-230-788-71 | RES, VAR, CERMET 20K | | | |
| | | SWITCH | | | |
| S1 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| S2 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| S3 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| S4 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |

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| | | | | | |
|---|---|---|---|---|---|
| | *1-618-814-11 | HE BOARD | | | |
| | | ******* | | | |
| | | CAPACITOR | | | |
| C1 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C5 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C6 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C7 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |

# HE | HF | HG | HH | PA

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | DIODE | | | |
| D1 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D2 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D3 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D4 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D5 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D6 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D7 | 8-719-109-89 | DIODE RD5.6ES-B2 | | | |
| D8 | 8-719-110-36 | DIODE RD13ES-B2 | | | |
| D9 | 8-719-110-36 | DIODE RD13ES-B2 | | | |
| D10 | 8-719-110-36 | DIODE RD13ES-B2 | | | |
| D11 | 8-719-110-36 | DIODE RD13ES-B2 | | | |
| | | CONNECTOR | | | |
| HE1 | *1-566-065-31 | PIN, CONNECTOR 13P | | | |
| HE2 | *1-566-059-11 | PIN, CONNECTOR 7P | | | |
| HE3 | *1-566-054-11 | PIN, CONNECTOR 2P | | | |
| HE4 | *1-566-064-11 | PIN, CONNECTOR 12P | | | |
| | | RESISTOR | | | |
| R1 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R2 | 1-247-889-00 | CARBON | 270K | 5% | 1/4W |
| R10 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R11 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R12 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R13 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R14 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R15 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| R16 | 1-247-700-11 | CARBON | 100 | 5% | 1/4W |
| | | SWITCH | | | |
| S1 | 1-554-724-11 | SWITCH, PUSH (1 KEY) | | | |
| S2 | 1-554-724-11 | SWITCH, PUSH (1 KEY) | | | |
| S3 | 1-554-724-11 | SWITCH, PUSH (1 KEY) | | | |
| S4 | 1-554-724-11 | SWITCH, PUSH (1 KEY) | | | |
| S5 | 1-554-724-11 | SWITCH, PUSH (1 KEY) | | | |
| ********** | | | | | |
| | *1-623-001-11 | HF BOARD | | | |
| | | ******* | | | |
| | | CONNECTOR | | | |
| HF1 | 1-562-221-71 | RECEPTACLE, CONNECTOR 12P | | | |
| ********** | | | | | |
| | *1-627-681-11 | HG BOARD | | | |
| | | ******* | | | |
| | | (BVM-2010P ONLY. Serial No. 2,001,081 and higher<br>BVM-2010PM ONLY. Serial No. 2,000,004 and higher<br>BVM-2010PD ONLY. Serial No. 2,000,042 and higher<br>BVM-2010PMD ONLY. Serial No. 2,000,001 and higher) | | | |
| | 7-682-547-09 | SCREW BVTT 3X6 (S) | | | |
| | | DIODE | | | |
| D1 | 8-719-938-68 | DIODE GL3HY8 | | | |
| D2 | 8-719-812-41 | DIODE TLR124 | | | |
| | | RESISTOR | | | |
| R1 | 1-215-465-00 | METAL | 68K | 1% | 1/4W |
| R2 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R3 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/4W |
| R5 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | SWITCH | | | |
| SW1 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| SW2 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| SW3 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| SW4 | 1-570-566-11 | SWITCH, PUSH (4 KEY) | | | |
| ********** | | | | | |
| | *1-627-682-11 | HH BOARD | | | |
| | | ******* | | | |
| | | (BVM-2010P ONLY. Serial No. 2,001,081 and higher<br>BVM-2010PM ONLY. Serial No. 2,000,004 and higher<br>BVM-2010PD ONLY. Serial No. 2,000,042 and higher<br>BVM-2010PMD ONLY. Serial No. 2,000,001 and higher) | | | |
| | | CONNECTOR | | | |
| HH1 | 1-566-614-11 | PLUG (L TYPE) 3P | | | |
| HH2 | 1-566-614-11 | PLUG (L TYPE) 3P | | | |
| HH3 | 1-566-614-11 | PLUG (L TYPE) 3P | | | |
| HH4 | 1-566-614-11 | PLUG (L TYPE) 3P | | | |
| | | VARIABLE RESISTOR | | | |
| RV1 | 1-238-332-11 | RES, VAR, CARBON 20K | | | |
| RV2 | 1-238-332-11 | RES, VAR, CARBON 20K | | | |
| RV3 | 1-238-332-11 | RES, VAR, CARBON 20K | | | |
| RV4 | 1-238-332-11 | RES, VAR, CARBON 20K | | | |
| ********** | | | | | |
| | *A-1394-128-A | PA BOARD, COMPLETE | | | |
| | | ********** | | | |
| | 7-682-548-04 | SCREW P 3X8 | | | |
| | | CAPACITOR | | | |
| C101 | 1-124-046-00 | ELECT | 10MF | 20% | 160V |
| C102 | 1-124-910-11 | ELECT | 47MF | 20% | 25V |
| C103 | 1-123-024-21 | ELECT | 33MF | | 160V |
| C104 | 1-136-171-00 | FILM | 0.33MF | 5% | 50V |
| C105 | 1-108-700-11 | MYLAR | 0.047MF | 10% | 200V |
| C106 | 1-108-700-11 | MYLAR | 0.047MF | 10% | 200V |
| C107 | 1-102-030-00 | CERAMIC | 330PF | 10% | 500V |
| C108 | 1-136-072-00 | FILM | 0.0063MF | 3% | 2KV |
| C109 | 1-161-753-00 | CERAMIC | 470PF | 10% | 3KV |
| C110 | 1-162-114-00 | CERAMIC | 0.0047MF | | 2KV |
| C111 | 1-136-601-11 | FILM | 0.01MF | 10% | 630V |
| C112 | 1-136-557-11 | FILM | 0.0033MF | 5% | 630V |
| C113 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C116 | 1-123-330-00 | ELECT | 22MF | 20% | 16V |
| C117 | 1-124-910-11 | ELECT | 47MF | 20% | 16V |
| C118 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C119 | 1-108-796-11 | MYLAR | 0.0022MF | 5% | 50V |
| C120 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C121 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C122 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C123 | 1-136-169-00 | FILM | 0.22MF | 5% | 50V |
| C124 | 1-136-111-00 | FILM | 1MF | 5% | 200V |
| C125 | 1-136-169-00 | FILM | 0.22MF | 5% | 50V |
| C126 | 1-102-030-00 | CERAMIC | 330PF | 10% | 500V |
| C127 | 1-130-736-11 | FILM | 0.01MF | 5% | 50V |
| C128 | 1-130-994-11 | FILM | 0.033MF | 5% | 50V |
| C129 | 1-123-369-00 | ELECT | 4.7MF | 20% | 25V |
| C130 | 1-102-074-00 | CERAMIC | 0.001MF | 10% | 50V |
| C131 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C132 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C201 | 1-108-634-11 | MYLAR | 0.047MF | 10% | 100V |

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

**PA**

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C202 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C203 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C204 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C205 | 1-126-541-11 | ELECT | 330MF | 20% | 16V |
| C207 | 1-124-122-11 | ELECT | 100MF | 20% | 25V |
| C209 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C212 | 1-101-006-00 | CERAMIC | 0.047MF | | 50V |
| C213 | 1-123-356-00 | ELECT | 10MF | 20% | 50V |
| C214 | 1-123-356-00 | ELECT | 10MF | 20% | 50V |
| C215 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C216 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C217 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C218 | 1-126-541-11 | ELECT | 330MF | 20% | 16V |
| C219 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C220 | 1-130-994-11 | FILM | 0.033MF | 5% | 50V |
| C221 | 1-136-171-00 | FILM | 0.033MF | 5% | 50V |
| | | DIODE | | | |
| D102 | 8-719-300-80 | DIODE RU-1C | | | |
| D103 | 8-719-300-80 | DIODE RU-1C | | | |
| D104 | 8-719-300-80 | DIODE RU-1C | | | |
| D105 | 8-719-300-80 | DIODE RU-1C | | | |
| D106 | 8-719-901-19 | DIODE V11N | | | |
| D107 | 8-719-109-93 | DIODE RD6.2ES-B2 | | | |
| D109 | 8-719-911-19 | DIODE 1SS119 | | | |
| D110 | 8-719-911-19 | DIODE 1SS119 | | | |
| D111 | 8-719-109-63 | DIODE RD3.0ES-B2 | | | |
| D201 | 8-719-911-19 | DIODE 1SS119 | | | |
| D202 | 8-719-109-72 | DIODE RD3.9ES-B2 | | | |
| D203 | 8-719-911-19 | DIODE 1SS119 | | | |
| D204 | 8-719-000-28 | THYRISTOR CR02AM-8 | | | |
| D205 | 8-719-000-28 | THYRISTOR CR02AM-8 | | | |
| D206 | 8-719-911-19 | DIODE 1SS119 | | | |
| D207 | 8-719-911-19 | DIODE 1SS119 | | | |
| D215 | 8-759-157-40 | IC UPC574J | | | |
| D216 | 8-759-157-40 | IC UPC574J | | | |
| D217 | 8-719-911-19 | DIODE 1SS119 | | | |
| D218 | 8-719-911-19 | DIODE 1SS119 | | | |
| D219 | 8-719-911-19 | DIODE 1SS119 | | | |
| D220 | 8-719-911-19 | DIODE 1SS119 | | | |
| | | IC | | | |
| IC1 | 8-759-100-75 | IC UPC1394C | | | |
| IC2 | 8-759-981-64 | IC LM2903DQ | | | |
| IC3 | 8-759-981-64 | IC LM2903DQ | | | |
| IC4 | 8-759-990-82 | IC TL082CP | | | |
| | | COIL | | | |
| L1 | 1-459-215-00 | COIL (WITH CORE) | | | |
| | | CONNECTOR | | | |
| PA1 | 1-508-765-00 | PIN, CONNECTOR (5MM PITCH) 3P | | | |
| PA2 | 1-508-766-00 | PIN, CONNECTOR (5MM PITCH) 4P | | | |
| | | TRANSISTOR | | | |
| Q101 | 8-729-802-71 | TRANSISTOR 2SA1407-D | | | |
| Q102 | 8-729-201-62 | TRANSISTOR 2SC2555-2 | | | |
| Q103 | 8-729-202-53 | TRANSISTOR 2SD1556-LB | | | |
| Q104 | 8-729-804-48 | TRANSISTOR 2SC3675 | | | |
| Q105 | 8-729-804-48 | TRANSISTOR 2SC3675 | | | |
| Q106 | 8-729-804-48 | TRANSISTOR 2SC3675 | | | |
| Q107 | 8-729-119-80 | TRANSISTOR 2SC2688-LK | | | |
| Q108 | 8-729-119-80 | TRANSISTOR 2SC2688-LK | | | |
| Q109 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | |
| Q110 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | |

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| Q111 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q112 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q201 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q202 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| | | RESISTOR | | | | |
| R101 | 1-216-347-11 | METAL OXIDE | 0.68 | 5% | 1W | F |
| R102 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R103 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R104 | 1-216-464-11 | METAL OXIDE | 18K | 5% | 2W | F |
| R105 | 1-216-359-00 | METAL OXIDE | 6.8 | 5% | 1W | F |
| R106 | 1-216-350-11 | METAL OXIDE | 1.2 | 5% | 1W | F |
| R107 | 1-216-372-11 | METAL OXIDE | 1.8 | 5% | 2W | F |
| R108 | 1-212-998-00 | FUSIBLE | 470 | 5% | 1/2W | F |
| R109 | 1-215-898-11 | METAL OXIDE | 10K | 5% | 2W | F |
| R110 | 1-202-719-00 | SOLID | 1M | 10% | 1/2W | |
| R111 | 1-202-723-00 | SOLID | 2.2M | 10% | 1/2W | |
| R112 | 1-214-937-00 | CARBON | 1M | 5% | 1/2W | |
| R113 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R114 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R115 | 1-202-719-00 | SOLID | 1M | 10% | 1/2W | |
| R116 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R117 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R118 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R119 | 1-214-937-00 | CARBON | 1M | 5% | 1/2W | |
| R120 | 1-215-451-00 | METAL | 18K | 1% | 1/6W | |
| R121 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R122 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R123 | 1-215-459-00 | METAL | 39K | 1% | 1/6W | |
| ⋈ R124 | ⚠ | METAL | | | 1/6W | |
| R125 | 1-215-455-00 | METAL | 27K | 1% | 1/6W | |
| ⋈ R126 | ⚠ | METAL | | | 1/6W | |
| R127 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W | |
| R128 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W | |
| R129 | 1-249-440-11 | CARBON | 82K | 5% | 1/4W | |
| R130 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R131 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R132 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W | |
| R133 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R134 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W | |
| R135 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R136 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R137 | 1-215-461-00 | METAL | 47K | 1% | 1/6W | |
| R138 | 1-215-440-00 | METAL | 6.2K | 1% | 1/6W | |
| R139 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W | |
| R140 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R141 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R142 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R143 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R144 | 1-215-439-00 | METAL | 5.6K | 1% | 1/6W | |
| R146 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R148 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R150 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R151 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R153 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R154 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R201 | 1-215-899-11 | METAL OXIDE | 15K | 5% | 2W | F |
| R202 | 1-215-899-11 | METAL OXIDE | 15K | 5% | 2W | F |
| R203 | 1-215-899-11 | METAL OXIDE | 15K | 5% | 2W | F |
| R204 | 1-215-899-11 | METAL OXIDE | 15K | 5% | 2W | F |
| R205 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R206 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R207 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R208 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R209 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R210 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |

# PA PB QA QB

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R211 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R212 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W | |
| R213 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | |
| R214 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R220 | 1-215-455-00 | METAL | 27K | 1% | 1/6W | |
| R221 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| ⊠R222 | ⚠ | METAL | | | 1/6W | |
| R223 | 1-215-486-00 | METAL | 510K | 1% | 1/6W | |
| R224 | 1-215-471-00 | METAL | 120K | 1% | 1/6W | |
| R225 | 1-215-458-00 | METAL | 36K | 1% | 1/6W | |
| R226 | 1-215-449-00 | METAL | 15K | 1% | 1/6W | |
| ⊠R227 | ⚠ | METAL | | | 1/6W | |
| ⊠R228 | ⚠ | METAL | | | 1/6W | |
| R231 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W | |
| R232 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R237 | 1-215-455-00 | METAL | 27K | 1% | 1/6W | |
| R238 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| ⊠R239 | ⚠ | METAL | | | 1/6W | |
| R240 | 1-215-486-00 | METAL | 510K | 1% | 1/6W | |
| R241 | 1-215-471-00 | METAL | 120K | 1% | 1/6W | |
| R242 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R243 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R245 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R246 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R247 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R248 | 1-249-399-11 | CARBON | 33 | 5% | 1/4W | |
| R249 | 1-249-399-11 | CARBON | 33 | 5% | 1/4W | |
| R250 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W | |

VARIABLE RESISTOR

| | | | |
|---|---|---|---|
| RV1 | 1-237-500-21 | RES, ADJ, CERMET 1K | |

TRANSFORMER

| | | | |
|---|---|---|---|
| T1 | 1-437-078-00 | TRANSFORMER, HORIZONTAL DRIVE | |
| T2 | 1-437-079-00 | TRANSFORMER, HORIZONTAL DRIVE | |
| T3 | 1-439-384-11 | LOT | |

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*1-617-891-11 PB BOARD
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CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-130-959-00 | FILM | 0.047MF | 10% | 400V |
| C2 | 1-130-959-00 | FILM | 0.047MF | 10% | 400V |

CONNECTOR

| | | |
|---|---|---|
| PB1 | 1-508-766-00 | PIN, CONNECTOR (5MM PITCH) 4P |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-215-426-00 | METAL | 1.6K | 1% | 1/4W |
| R2 | 1-215-438-00 | METAL | 5.1K | 1% | 1/4W |
| R3 | 1-215-426-00 | METAL | 1.6K | 1% | 1/4W |
| R4 | 1-215-438-00 | METAL | 5.1K | 1% | 1/4W |
| R5 | 1-215-438-00 | METAL | 5.1K | 1% | 1/4W |
| R6 | 1-215-438-00 | METAL | 5.1K | 1% | 1/4W |

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*1-617-895-11 QA BOARD
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CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C2 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C3 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C4 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C5 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C6 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C7 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C8 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C9 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C10 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C11 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C12 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-215-449-00 | METAL | 15K | 1% | 1/4W |
| R2 | 1-215-449-00 | METAL | 15K | 1% | 1/4W |
| R3 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |
| S2 | 1-570-857-11 | SWITCH, SLIDE |
| S3 | 1-570-857-11 | SWITCH, SLIDE |

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*1-618-786-11 QB BOARD
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CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C2 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C3 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C4 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C5 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C6 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C7 | 1-108-692-11 | MYLAR | 0.01MF | 10% | 200V |
| C8 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C9 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C10 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C11 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C12 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-215-449-00 | METAL | 15K | 1% | 1/6W |
| R2 | 1-215-449-00 | METAL | 15K | 1% | 1/6W |
| R3 | 1-215-449-00 | METAL | 15K | 1% | 1/6W |

SWITCH

| | | |
|---|---|---|
| S1 | 1-570-857-11 | SWITCH, SLIDE |
| S2 | 1-570-857-11 | SWITCH, SLIDE |
| S3 | 1-570-857-11 | SWITCH, SLIDE |

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QD

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | *A-1275-088-A | QD BOARD, COMPLETE (BVM-2010PD/PMD ONLY) | | | |
| | | ********** | | | |
| | *1-526-816-21 | SOCKET, IC (DP) 24P | | | |
| | | CAPACITOR | | | |
| C1 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C101 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C103 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C104 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C201 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C202 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C203 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C204 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C301 | 1-123-380-00 | ELECT | 1MF | 20% | 50V |
| C303 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C304 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C400 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C401 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C402 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C403 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C404 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C500 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C501 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C502 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C503 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C504 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C600 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C601 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C602 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C603 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C604 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C605 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C606 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C607 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C608 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C609 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C610 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C611 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C612 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C613 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C614 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C615 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C616 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C617 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C618 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C619 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C620 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C621 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C622 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C623 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C624 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C650 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C651 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C652 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C653 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C654 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C655 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C656 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C657 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C658 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C659 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C660 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C661 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C662 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C663 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C664 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C665 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C666 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C667 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C668 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C700 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C701 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C750 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C751 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C901 | 1-124-120-11 | ELECT | 220MF | 20% | 16V |
| C902 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C903 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| C904 | 1-123-356-00 | ELECT | 10MF | 20% | 16V |
| | | COMBINATION PARTS | | | |
| CP6 | 1-231-405-00 | RESISTOR BLOCK 1K | | | |
| CP7 | 1-231-405-00 | RESISTOR BLOCK 1K | | | |
| CP101 | 1-231-405-00 | RESISTOR BLOCK 1K | | | |
| CP201 | 1-231-405-00 | RESISTOR BLOCK 1K | | | |
| CP301 | 1-231-405-00 | RESISTOR BLOCK 1K | | | |
| | | FERRITE BEAD RESISTOR | | | |
| FB1 | 1-535-178-00 | RES, FERRITE | | | |
| FB2 | 1-535-178-00 | RES, FERRITE | | | |
| FB3 | 1-535-178-00 | RES, FERRITE | | | |
| FB4 | 1-535-178-00 | RES, FERRITE | | | |
| | | IC | | | |
| IC8 | 8-759-937-27 | IC CXB1001G | | | |
| IC9 | 8-759-747-10 | IC MB7138HSK | | | |
| IC11 | 8-759-916-12 | IC SN74HC00AN | | | |
| IC12 | 8-759-916-12 | IC SN74HC00AN | | | |
| IC13 | 8-759-916-20 | IC SN74HC14AN | | | |
| IC14 | 8-759-232-31 | IC TC74HC74AP | | | |
| IC14 | 8-759-916-29 | IC SN74HC74AN | | | |
| IC15 | 8-752-304-30 | IC CX23043 | | | |
| IC16 | 8-759-746-57 | IC HN17C64G-20 | | | |
| | *2-527-514-16 | SEAL, CANNNEL (IC16) | | | |
| IC17 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC18 | 8-759-921-17 | IC SN74HC153AN | | | |
| IC19 | 8-759-918-33 | IC CX20160 | | | |
| IC20 | 8-752-304-30 | IC CX23043 | | | |
| IC21 | 8-759-746-63 | IC MBM27C256-25CZ | | | |
| | *2-527-514-21 | SEAL, CANNNEL (IC21) | | | |
| IC22 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC31 | 8-759-904-80 | IC 74F04PC | | | |
| IC32 | 8-759-904-80 | IC 74F04PC | | | |
| IC101 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC102 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC105 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC106 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC107 | 8-759-233-05 | IC TC74HC283AP | | | |
| IC108 | 8-759-233-05 | IC TC74HC283AP | | | |
| IC109 | 8-752-031-13 | IC CXA1106P | | | |
| IC201 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC202 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC205 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC206 | 8-759-916-96 | IC SN74HC374AN | | | |
| IC207 | 8-759-233-05 | IC TC74HC283AP | | | |
| IC208 | 8-759-233-05 | IC TC74HC283AP | | | |
| IC209 | 8-752-031-13 | IC CXA1106P | | | |
| IC301 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC302 | 8-759-916-50 | IC SN74HC157AN | | | |
| IC303 | 8-759-918-33 | IC CX20160 | | | |
| IC304 | 8-759-918-33 | IC CX20160 | | | |

# QD | QE

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| IC305 | 8-759-904-87 | IC 74F374PC | | | | |
| IC306 | 8-759-904-87 | IC 74F374PC | | | | |
| IC307 | 8-759-906-76 | IC 74F283PC | | | | |
| IC308 | 8-759-906-76 | IC 74F283PC | | | | |
| IC309 | 8-752-031-13 | IC CXA1106P | | | | |
| | | COIL | | | | |
| L4 | 1-410-645-31 | INDUCTOR | 100UH | | | |
| L5 | 1-410-645-31 | INDUCTOR | 100UH | | | |
| L6 | 1-421-370-00 | COIL, CHOKE | | | | |
| L7 | 1-421-370-00 | COIL, CHOKE | | | | |
| L9 | 1-410-645-31 | INDUCTOR | 100UH | | | |
| | | LOWPASS FILTER | | | | |
| LPF101 | 1-235-967-11 | FILTER, LOW PASS | | | | |
| LPF201 | 1-235-967-11 | FILTER, LOW PASS | | | | |
| LPF301 | 1-235-968-12 | FILTER, LOW PASS | | | | |
| | | TRANSISTOR | | | | |
| Q1 | 8-729-900-89 | TRANSISTOR DTC144ES | | | | |
| Q101 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q102 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q201 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q202 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| Q301 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | | | | |
| Q302 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | | | | |
| | | CONNECTOR | | | | |
| QD1 | *1-566-047-11 | PIN, CONNECTOR 8P | | | | |
| QD2 | *1-566-042-11 | PIN, CONNECTOR 3P | | | | |
| QD3 | *1-566-056-11 | PIN, CONNECTOR 4P | | | | |
| QD4 | *1-566-062-11 | PIN, CONNECTOR 10P | | | | |
| QD101 | *1-566-041-11 | PIN, CONNECTOR 2P | | | | |
| QD201 | *1-566-041-11 | PIN, CONNECTOR 2P | | | | |
| QD301 | *1-566-041-11 | PIN, CONNECTOR 2P | | | | |
| | | RESISTOR | | | | |
| R1 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R11 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R13 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R14 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R15 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R16 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R17 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R18 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R19 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R20 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R21 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R22 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R23 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R24 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R31 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R32 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R33 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R101 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R102 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R103 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R104 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W | |
| R105 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R106 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R107 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R201 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R202 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R203 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R204 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W | |
| R205 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R206 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R207 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R301 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R302 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R303 | 1-215-425-00 | METAL | 1.5K | 1% | 1/6W | |
| R304 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W | |
| R305 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R306 | 1-215-401-11 | METAL | 150 | 1% | 1/6W | |
| R307 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| | | SWITCH | | | | |
| S1 | 1-553-252-00 | SWITCH, ROTARY | | | | |
| ********** | | | | | | |
| | *1-623-851-11 | QE BOARD (BVM-2010PD/PMD ONLY) | | | | |
| | | ******* | | | | |
| | 7-682-547-04 | SCREW B 3X6 | | | | |
| | | CAPACITOR | | | | |
| C41 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C42 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C43 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C44 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C45 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C46 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C47 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C48 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C49 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C50 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C61 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C62 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C63 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C64 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C65 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C66 | 1-123-356-00 | ELECT | 10MF | 20% | 16V | |
| C81 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V | |
| | | COMBINATION PARTS | | | | |
| CP41 | 1-231-455-00 | BLOCK, CR | | | | |
| CP42 | 1-231-455-00 | BLOCK, CR | | | | |
| CP43 | 1-231-455-00 | BLOCK, CR | | | | |
| CP44 | 1-231-455-00 | BLOCK, CR | | | | |
| CP45 | 1-231-455-00 | BLOCK, CR | | | | |
| CP46 | 1-231-455-00 | BLOCK, CR | | | | |
| CP47 | 1-231-455-00 | BLOCK, CR | | | | |
| CP48 | 1-231-455-00 | BLOCK, CR | | | | |
| CP49 | 1-231-455-00 | BLOCK, CR | | | | |
| CP50 | 1-231-455-00 | BLOCK, CR | | | | |
| | | IC | | | | |
| IC41 | 8-759-001-25 | IC MC10125L | | | | |
| IC42 | 8-759-001-25 | IC MC10125L | | | | |
| IC43 | 8-759-001-25 | IC MC10125L | | | | |
| IC44 | 8-759-001-25 | IC MC10125L | | | | |
| IC45 | 8-759-001-25 | IC MC10125L | | | | |
| IC46 | 8-759-001-25 | IC MC10125L | | | | |
| IC47 | 8-759-904-80 | IC 74F04PC | | | | |
| IC48 | 8-759-938-94 | IC 74F158APC | | | | |
| IC49 | 8-759-904-87 | IC 74F374PC | | | | |
| IC50 | 8-759-904-87 | IC 74F374PC | | | | |
| | | CONNECTOR | | | | |
| QE41 | *1-566-056-11 | PIN, CONNECTOR 4P | | | | |
| QE42 | *1-566-062-11 | PIN, CONNECTOR 10P | | | | |

QE RA

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| QE43 | 1-563-322-11 | CONNECTOR,D-SUB(MOUNT TYPE)25P | |
| QE44 | 1-563-322-11 | CONNECTOR,D-SUB(MOUNT TYPE)25P | |

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*A-1285-073-A RA BOARD, COMPLETE
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CAPACITOR

| Ref.No | Part No. | Description | | | |
|---|---|---|---|---|---|
| C1 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C2 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C3 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C4 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C5 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C6 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C7 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C9 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C10 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C11 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C12 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C13 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C14 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C15 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C16 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C17 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C18 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C19 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C20 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C21 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C22 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C23 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C24 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C25 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C26 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C27 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C28 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C29 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C30 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C31 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C32 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C33 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C34 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C35 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C36 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C37 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C38 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C39 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C40 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C41 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C42 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C43 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C44 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C45 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C46 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C47 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C48 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C49 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C50 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C51 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C52 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C53 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C101 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C102 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C103 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C104 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C105 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C106 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C107 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C108 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C111 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C112 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C113 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C114 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C115 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C116 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C117 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C118 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C201 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C202 | 1-124-589-11 | ELECT | 47MF | 20% | 16V |
| C203 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C204 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C205 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C206 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C207 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C208 | 1-126-157-11 | ELECT | 10MF | 20% | 16V |
| C211 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C212 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C213 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C214 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C215 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C216 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C217 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |
| C218 | 1-161-379-00 | CERAMIC | 0.01MF | 30% | 25V |

DIODE

| Ref.No | Part No. | Description |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D3 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-911-19 | DIODE 1SS119 |
| D5 | 8-719-911-19 | DIODE 1SS119 |
| D6 | 8-719-911-19 | DIODE 1SS119 |
| D7 | 8-719-911-19 | DIODE 1SS119 |
| D8 | 8-719-911-19 | DIODE 1SS119 |
| D9 | 8-719-911-19 | DIODE 1SS119 |
| D10 | 8-719-911-19 | DIODE 1SS119 |
| D11 | 8-719-911-19 | DIODE 1SS119 |
| D12 | 8-719-911-19 | DIODE 1SS119 |
| D13 | 8-719-911-19 | DIODE 1SS119 |
| D14 | 8-719-911-19 | DIODE 1SS119 |
| D15 | 8-719-911-19 | DIODE 1SS119 |
| D16 | 8-719-911-19 | DIODE 1SS119 |
| D17 | 8-719-911-19 | DIODE 1SS119 |
| D18 | 8-719-911-19 | DIODE 1SS119 |
| D19 | 8-719-911-19 | DIODE 1SS119 |
| D20 | 8-719-911-19 | DIODE 1SS119 |
| D21 | 8-719-911-19 | DIODE 1SS119 |
| D22 | 8-719-911-19 | DIODE 1SS119 |
| D23 | 8-719-911-19 | DIODE 1SS119 |
| D24 | 8-719-911-19 | DIODE 1SS119 |
| D25 | 8-719-911-19 | DIODE 1SS119 |
| D26 | 8-719-911-19 | DIODE 1SS119 |
| D27 | 8-719-911-19 | DIODE 1SS119 |
| D28 | 8-719-911-19 | DIODE 1SS119 |
| D29 | 8-719-911-19 | DIODE 1SS119 |
| D30 | 8-719-911-19 | DIODE 1SS119 |
| D31 | 8-719-911-19 | DIODE 1SS119 |
| D32 | 8-719-911-19 | DIODE 1SS119 |
| D33 | 8-719-911-19 | DIODE 1SS119 |
| D34 | 8-719-911-19 | DIODE 1SS119 |
| D35 | 8-719-911-19 | DIODE 1SS119 |

# RA | RB

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| D36 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D37 | 8-719-911-19 | DIODE 1SS119 | | | | |
| D101 | 8-719-110-03 | DIODE RD7.5ES-B2 | | | | |
| D102 | 8-719-109-93 | DIODE RD6.2ES-B2 | | | | |
| D201 | 8-719-110-03 | DIODE RD7.5ES-B2 | | | | |
| D202 | 8-719-109-93 | DIODE RD6.2ES-B2 | | | | |
| | | IC | | | | |
| IC1 | 8-759-208-06 | IC TC4051BP | | | | |
| IC2 | 8-759-208-06 | IC TC4051BP | | | | |
| IC3 | 8-759-208-06 | IC TC4051BP | | | | |
| IC4 | 8-759-208-06 | IC TC4051BP | | | | |
| IC5 | 8-759-208-06 | IC TC4051BP | | | | |
| IC6 | 8-759-208-06 | IC TC4051BP | | | | |
| IC7 | 8-759-240-40 | IC TC4040BP | | | | |
| IC8 | 8-759-208-06 | IC TC4051BP | | | | |
| IC9 | 8-759-990-82 | IC TL082CP | | | | |
| IC10 | 8-759-981-95 | IC RC4558S | | | | |
| IC11 | 8-759-981-95 | IC RC4558S | | | | |
| IC12 | 8-759-981-95 | IC RC4558S | | | | |
| | | RESISTOR | | | | |
| R1 | 1-215-465-00 | METAL | 68K | 1% | 1/6W | |
| R2 | 1-215-451-00 | METAL | 18K | 1% | 1/6W | |
| R3 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R5 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R6 | 1-215-437-00 | METAL | 4.7K | 1% | 1/6W | |
| R7 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R8 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R9 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R10 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R11 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R12 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R13 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R14 | 1-215-469-00 | METAL | 100K | 1% | 1/6W | |
| R15 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R16 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R17 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R18 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R19 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R20 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R21 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R22 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R23 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R24 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R25 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R26 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R27 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R28 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R29 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R30 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R31 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R32 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R33 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R34 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R35 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R36 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R37 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R38 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R39 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R40 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R41 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R42 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R43 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R44 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R45 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R46 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R47 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R48 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R51 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R52 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R53 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R54 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R55 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R56 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R61 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R62 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R63 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W | |
| R101 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R201 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| | | CONNECTOR | | | | |
| RA1 | *1-566-064-11 | PIN, CONNECTOR 12P | | | | |
| RA2 | *1-566-064-11 | PIN, CONNECTOR 12P | | | | |
| RA3 | *1-566-062-11 | PIN, CONNECTOR 10P | | | | |
| RA4 | *1-566-047-11 | PIN, CONNECTOR 8P | | | | |
| RA5 | *1-566-051-11 | PIN, CONNECTOR 12P | | | | |
| RA6 | *1-566-059-11 | PIN, CONNECTOR 7P | | | | |
| RA7 | *1-566-055-11 | PIN, CONNECTOR 3P | | | | |
| RA9 | *1-566-060-11 | PIN, CONNECTOR 8P | | | | |
| RA10 | *1-566-065-11 | PIN, CONNECTOR 13P | | | | |

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*A-1285-072-A RB BOARD, COMPLETE

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|---|---|---|---|---|---|
| | | CAPACITOR | | | |
| C1 | 1-101-884-00 | CERAMIC | 56PF | 5% | 50V |
| C2 | 1-102-973-00 | CERAMIC | 100PF | 5% | 50V |
| C3 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C5 | 1-136-153-00 | FILM | 0.01MF | 5% | 50V |
| C6 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C7 | 1-136-165-00 | FILM | 0.1MF | 5% | 50V |
| C101 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C102 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C103 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C104 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C105 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C106 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C107 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C112 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C113 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C114 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C115 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C116 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C117 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C118 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C119 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C120 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C121 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C122 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C123 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C124 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C125 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C126 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C127 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C128 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C129 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |

RB

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C130 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C131 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C132 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C201 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C202 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C203 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C204 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C205 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C206 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C207 | 1-124-034-51 | ELECT | 33MF | 20% | 16V |
| C212 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C213 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C214 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C215 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C216 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C217 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C218 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C219 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C220 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C221 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C222 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C223 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C224 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |
| C225 | 1-101-004-00 | CERAMIC | 0.01MF | | 50V |

COMBINATION PARTS

| | | |
|---|---|---|
| CP15 | 1-232-390-11 | COMPOSITION CIRCUIT BLOCK |

DIODE

| | | |
|---|---|---|
| D1 | 8-719-911-19 | DIODE 1SS119 |
| D2 | 8-719-911-19 | DIODE 1SS119 |
| D3 | 8-719-911-19 | DIODE 1SS119 |
| D4 | 8-719-911-19 | DIODE 1SS119 |
| D5 | 8-719-911-19 | DIODE 1SS119 |
| D6 | 8-719-911-19 | DIODE 1SS119 |
| D7 | 8-719-911-19 | DIODE 1SS119 |
| D8 | 8-719-911-19 | DIODE 1SS119 |
| D10 | 8-719-110-36 | DIODE RD13ES-B2 |
| D101 | 8-719-110-03 | DIODE RD7.5ES-B2 |
| D201 | 8-719-110-03 | DIODE RD7.5ES-B2 |

IC

| | | |
|---|---|---|
| IC1 | 8-759-990-82 | IC TL082CP |
| IC2 | 8-759-990-82 | IC TL082CP |
| IC3 | 8-759-990-82 | IC TL082CP |
| IC4 | 8-759-990-82 | IC TL082CP |
| IC5 | 8-759-990-82 | IC TL082CP |
| IC6 | 8-759-990-82 | IC TL082CP |
| IC7 | 8-759-990-82 | IC TL082CP |
| IC8 | 8-759-990-82 | IC TL082CP |
| IC9 | 8-759-990-82 | IC TL082CP |
| IC10 | 8-759-990-82 | IC TL082CP |
| IC11 | 8-759-140-53 | IC MC14053BCP |
| IC13 | 8-759-240-40 | IC TC4040BP |
| IC14 | 8-759-208-06 | IC TC4051BP |
| IC15 | 8-759-208-06 | IC TC4051BP |
| IC16 | 8-759-208-06 | IC TC4051BP |
| IC17 | 8-759-208-06 | IC TC4051BP |
| IC18 | 8-759-208-06 | IC TC4051BP |
| IC19 | 8-759-208-06 | IC TC4051BP |
| IC20 | 8-759-208-06 | IC TC4051BP |
| IC21 | 8-759-240-69 | IC MC14069UBCP |
| IC22 | 8-759-240-69 | IC MC14069UBCP |
| IC23 | 8-759-240-69 | IC MC14069UBCP |
| IC24 | 8-759-240-69 | IC MC14069UBCP |
| IC25 | 8-759-240-69 | IC MC14069UBCP |
| IC26 | 8-759-240-69 | IC MC14069UBCP |

TRANSISTOR

| | | |
|---|---|---|
| Q1 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q2 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q3 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q4 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q5 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q6 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q7 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q8 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q9 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q10 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q11 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q12 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q13 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q14 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q15 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q16 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q17 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q18 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q19 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q20 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q21 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q22 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q23 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q24 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q25 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q26 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q27 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q28 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q29 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q30 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q31 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q32 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q33 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q34 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |
| Q35 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q36 | 8-729-900-89 | TRANSISTOR DTC144ES |
| Q37 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-215-465-00 | METAL | 68K | 1% | 1/6W |
| R2 | 1-215-451-00 | METAL | 18K | 1% | 1/6W |
| R3 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R4 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R5 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R6 | 1-215-454-00 | METAL | 24K | 1% | 1/6W |
| R7 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R9 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R10 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R11 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R12 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R13 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R14 | 1-215-469-00 | METAL | 100K | 1% | 1/6W |
| R15 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R16 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R17 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R18 | 1-215-445-00 | METAL | 10K | 1% | 1/6W |
| R19 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R21 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R22 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R23 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R24 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |

# RB TA TB V

| Ref.No | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R25 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R26 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R27 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R28 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R29 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R30 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R31 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R32 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R33 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R34 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R35 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |
| R37 | 1-215-446-00 | METAL | 11K | 1% | 1/6W |
| R38 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R39 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R40 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R45 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R50 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R51 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R101 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W |
| R201 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |

CONNECTOR

| | | |
|---|---|---|
| RB1 | *1-566-059-11 | PIN, CONNECTOR 7P |
| RB2 | *1-566-062-11 | PIN, CONNECTOR 10P |
| RB4 | *1-566-060-11 | PIN, CONNECTOR 8P |
| RB5 | *1-566-060-11 | PIN, CONNECTOR 8P |
| RB6 | *1-566-064-11 | PIN, CONNECTOR 12P |
| RB7 | *1-566-064-11 | PIN, CONNECTOR 12P |
| RB8 | *1-566-062-11 | PIN, CONNECTOR 10P |
| RB9 | *1-566-060-11 | PIN, CONNECTOR 8P |
| RB10 | *1-566-064-11 | PIN, CONNECTOR 12P |
| RB11 | *1-566-059-11 | PIN, CONNECTOR 7P |
| RB12 | *1-566-059-11 | PIN, CONNECTOR 7P |
| RB13 | *1-566-060-11 | PIN, CONNECTOR 8P |
| RB14 | *1-566-064-11 | PIN, CONNECTOR 12P |
| RB15 | *1-566-054-11 | PIN, CONNECTOR 2P |
| RB16 | *1-566-054-11 | PIN, CONNECTOR 2P |
| RB17 | *1-566-055-11 | PIN, CONNECTOR 3P |
| RB18 | *1-566-056-11 | PIN, CONNECTOR 4P |
| RB19 | *1-566-058-11 | PIN, CONNECTOR 6P |
| RB20 | *1-566-058-11 | PIN, CONNECTOR 6P |
| RB21 | *1-566-055-11 | PIN, CONNECTOR 3P |
| RB22 | *1-566-055-11 | PIN, CONNECTOR 3P |

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*1-617-898-11 TA BOARD
*******

CONNECTOR

| | | |
|---|---|---|
| TA1 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TA2 | *1-566-055-11 | PIN, CONNECTOR 3P |
| TA3 | *1-566-056-11 | PIN, CONNECTOR 4P |
| TA4 | *1-566-057-11 | PIN, CONNECTOR 5P |
| TA5 | *1-566-058-11 | PIN, CONNECTOR 6P |
| TA6 | *1-566-055-11 | PIN, CONNECTOR 3P |
| TA7 | *1-566-058-11 | PIN, CONNECTOR 6P |
| TA8 | *1-566-042-11 | PIN, CONNECTOR 3P |
| TA9 | *1-566-045-11 | PIN, CONNECTOR 6P |
| TA10 | *1-566-045-11 | PIN, CONNECTOR 6P |
| TA11 | *1-566-045-11 | PIN, CONNECTOR 6P |
| TA12 | *1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P |
| TA13 | *1-561-337-00 | CONNECTOR, MULTI |
| TA14 | *1-561-337-00 | CONNECTOR, MULTI |
| TA15 | *1-561-337-00 | CONNECTOR, MULTI |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| | *1-617-899-11 | TB BOARD | |
| | | ******* | |

CONNECTOR

| | | |
|---|---|---|
| CN1 | *1-564-431-11 | POST, CONNECTOR 3P |
| CN2 | *1-564-431-11 | POST, CONNECTOR 3P |
| CN11 | *1-561-724-00 | SOCKET, CONNECTOR 2P |
| CN12 | *1-561-724-00 | SOCKET, CONNECTOR 2P |
| TB4 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB5 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB6 | *1-566-060-11 | PIN, CONNECTOR 8P |
| TB7 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB8 | *1-566-058-11 | PIN, CONNECTOR 6P |
| TB9 | *1-566-060-11 | PIN, CONNECTOR 8P |
| TB10 | *1-566-064-11 | PIN, CONNECTOR 12P |
| TB11 | *1-566-055-11 | PIN, CONNECTOR 3P |
| TB12 | *1-566-064-11 | PIN, CONNECTOR 12P |
| TB13 | *1-566-062-11 | PIN, CONNECTOR 10P |
| TB14 | *1-566-064-11 | PIN, CONNECTOR 12P |
| TB15 | *1-566-060-11 | PIN, CONNECTOR 8P |
| TB16 | *1-566-057-11 | PIN, CONNECTOR 5P |
| TB17 | *1-566-057-11 | PIN, CONNECTOR 5P |
| TB18 | *1-566-055-11 | PIN, CONNECTOR 3P |
| TB19 | *1-566-056-11 | PIN, CONNECTOR 4P |
| TB20 | *1-566-056-11 | PIN, CONNECTOR 4P |
| TB21 | *1-566-056-11 | PIN, CONNECTOR 4P |
| TB22 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB23 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB24 | *1-566-054-11 | PIN, CONNECTOR 2P |
| TB28 | *1-566-062-11 | PIN, CONNECTOR 10P |
| TB31 | *1-561-337-00 | CONNECTOR, MULTI |
| TB32 | *1-561-337-00 | CONNECTOR, MULTI |
| TB33 | *1-561-337-00 | CONNECTOR, MULTI |
| TB34 | *1-561-337-00 | CONNECTOR, MULTI |
| TB35 | *1-561-337-00 | CONNECTOR, MULTI |
| TB36 | *1-561-337-00 | CONNECTOR, MULTI |
| TB37 | *1-561-337-00 | CONNECTOR, MULTI |
| TB38 | *1-561-337-00 | CONNECTOR, MULTI |
| TB39 | *1-561-337-00 | CONNECTOR, MULTI |
| TB40 | *1-561-337-00 | CONNECTOR, MULTI |

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R100 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W |

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*1-617-896-11 V BOARD
******

1-563-265-11 CONNECTOR, MULTIPLE 10P

RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R2 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R3 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R4 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R5 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R6 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |
| R7 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W |

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

**W** **XB** **Y**

| Ref.No | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| | *1-617-897-11 | W BOARD | | | | |
| | | ****** | | | | |
| | | CAPACITOR | | | | |
| C1 | 1-108-692-11 | MYLAR | | 0.01MF | 10% | 200V |
| C2 | 1-108-692-11 | MYLAR | | 0.01MF | 10% | 200V |
| C3 | 1-108-692-11 | MYLAR | | 0.01MF | 10% | 200V |
| | | RESISTOR | | | | |
| R1 | 1-214-702-00 | METAL | 75 | 1% | 1/4W | |
| R2 | 1-214-702-00 | METAL | 75 | 1% | 1/4W | |
| R3 | 1-214-702-00 | METAL | 75 | 1% | 1/4W | |
| | | ********** | | | | |
| | *1-623-002-11 | XB BOARD | | | | |
| | | ******* | | | | |
| | | DIODE | | | | |
| D1 | 8-719-901-49 | DIODE LT-9010H | | | | |
| D2 | 8-719-901-49 | DIODE LT-9010H | | | | |
| | | ********** | | | | |
| | *1-617-893-11 | Y BOARD | | | | |
| | | ****** | | | | |
| | | DIODE | | | | |
| D1 | 8-719-812-43 | DIODE TLG124A | | | | |
| | | ********** | | | | |
| | | MISCELLANEOUS | | | | |
| | | ********** | | | | |
| | 1-216-371-00 | RES, METAL OXIDE FILM 1.5 | | | | |
| | 1-216-373-11 | RES, METAL OXIDE FILM 2.2 | | | | |
| | ⚠1-237-165-12 | RESISTOR ASSY, HIGH-VOLTAGE | | | | |
| | ⚠1-413-319-11 | REGULATOR, SWITCHING (BVM-2010PD/PMD ONLY) | | | | |
| | ⚠1-426-328-11 | COIL, DEGAUSSING | | | | |
| | ⚠1-439-382-21 | TRANSFORMER ASSY, FLY3ACK | | | | |
| | ⚠1-451-287-21 | DEFLECTION YOKE (Y14FAA) | | | | |
| | 1-452-032-00 | MAGNET, DISC; 10MMφ | | | | |
| | 1-452-094-00 | MAGNET, ROTATABLE DISK; 15MMφ | | | | |
| | ⚠1-452-117-31 | CRT NECK ASSY | | | | |
| | ⚠1-452-261-22 | CRT NECK ASSY (362) | | | | |
| | ⚠1-453-103-32 | HIGH-VOLTAGE BLOCK (HB-203 (B)) | | | | |
| | ⚠1-532-203-11 | FUSE, TIME-LAG 2A/250V (BVM-2010P/PD ONLY) | | | | |
| | ⚠1-532-746-11 | FUSE, GLASS TUBE 4A/125V (BVM-2010PM/PMD ONLY) | | | | |
| | ⚠1-532-822-11 | FUSE, GLASS TUBE 1A/25V (BVM-2010PD/PMD ONLY) | | | | |
| | 1-565-791-11 | CONNECTOR, BNC 1P | | | | |
| S901 | ⚠1-570-052-12 | SWITCHING, PUSH (AC POWER)(1 KEY) | | | | |
| V901 | ⚠B-733-054-05 | PICTURE TUBE (M49JJP21X) | | | | |
| | | ********** | | | | |

| Ref.No | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ********** | |
| | ⚠1-532-203-11 | FUSE, TIME-LAG 2A/250V (BVM-2010P/PD ONLY) | |
| | ⚠1-532-746-11 | FUSE, GLASS TUBE 4A/125V (BVM-2010PM/PMD ONLY) | |
| | ⚠1-532-822-11 | FUSE, GLASS TUBE 1A/25V (BVM-2010PD/PMD ONLY) | |
| | ⚠1-590-150-11 | POWER CORD (BVM-2010P/PD ONLY) | |
| | ⚠1-551-812-11 | POWER CORD (BVM-2010PM/PMD ONLY) | |
| | 1-560-776-00 | SOCKET, CONNECTOR 10P | |
| | 2-990-242-01 | HOLDER (B), PLUG | |
| | *4-361-988-02 | BAG, PROTECTION | |
| | 4-378-901-01 | KEY | |
| | 4-386-841-01 | LABEL, TALLY NUMBER | |
| | 4-386-841-11 | LABEL, TALLY NUMBER | |
| | 4-386-852-21 | MANUAL, OPERATION & MAINTRNANCE | |
| | *4-386-856-01 | INDIVIDUAL CARTON (BVM-2010P ONLY) | |
| | *4-386-858-01 | CUSHION (UPPER) | |
| | 4-386-870-01 | LABEL, DIGITAL (BVM-2010PD ONLY) | |
| | *4-386-872-01 | INDIVIDUAL CARTON (BVM-2010PD ONLY) | |
| | *4-386-875-01 | CUSHION (FRONT LOWER) | |
| | *4-386-876-01 | CUSHION (REAR LOWER) | |
| | *4-386-878-01 | INDIVIDUAL CARTON (BVM-2010PM ONLY) | |
| | 7-700-731-03 | DRIVER, VR ADJUSTMENT | |
| | *A-1394-088-A | Z BOARD, COMPLETE (INCLUDING THE FOLLOWING PARTS) | |
| | *1-561-337-21 | CONNECTOR, MULTI | |